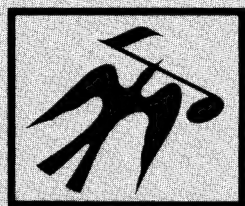


SERVICE MANUAL



FISHER

PH 480L

**Stereo High Fidelity
System
(EUROPE)**



The first name in high fidelity

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NOTES:

Schematic Diagram (3) and Point to Point Wiring Diagram are separately attached to this manual.

SPECIFICATIONS

Power Source	
AC	120/220V
DC	15V (UM-1, HP 2, D Cell, Monozellen, R20) x 10
Output Power	11.5W x 2 (10% THD, DC)
Power Consumption	80W
Current Consumption (at VR min.)	
Record mode	400mA
Playback mode	370mA
Fast Forward mode	370mA
Rewind mode	370mA
Recording System	AC Bias
Erasing System	AC Erasing
Tape Speed	1-7/8 ips. \pm 3%
Wow & Flutter	0.055% WRMS
Fast Forward Time	100sec. (with C-60 cassette tape)
Rewind Time	100sec. (with C-60 cassette tape)
Frequency Response (Overall, DOLBY : OFF)	
Fe ₂ O ₃	50Hz — 12.5kHz
CrO ₂	40Hz — 14kHz
Metal	40Hz — 15kHz
Erase Ratio (Overall)	
Fe ₂ O ₃	50dB
Signal to Noise Ratio (DOLBY: OFF)	
Fe ₂ O ₃	50dB
Metal	53dB
Crosstalk (with Fe ₂ O ₃)	
Track to Track	70dB
Channel Separation (with Fe ₂ O ₃)	48dB
Hum & Noise	-66dBs
Input Sensitivity and Impedance	
MIC	0.5mV/3.9k-ohm
PHONO	3mV/47k-ohm
LINE IN	160mV/47k-ohm
Output Level and Impedance	
LINE OUT	300mV/3.3k-ohm
EXT. Speaker	4ohm
Headphone	200ohm
Oscillation Frequency	
1	47.5kHz
2	46.3kHz
Frequency Range	
FM	87.6 — 108 MHz
SW	5.8 — 18 MHz
MW	515 — 1,670 kHz
LW	145 — 355 kHz

*Dolby is a registered trademark of Dolby Laboratories.

Because its products are subject to continuous improvement, Fisher Corporation reserves the right to modify product designs and specifications without notice and without incurring any obligation.

DISASSEMBLY INSTRUCTIONS

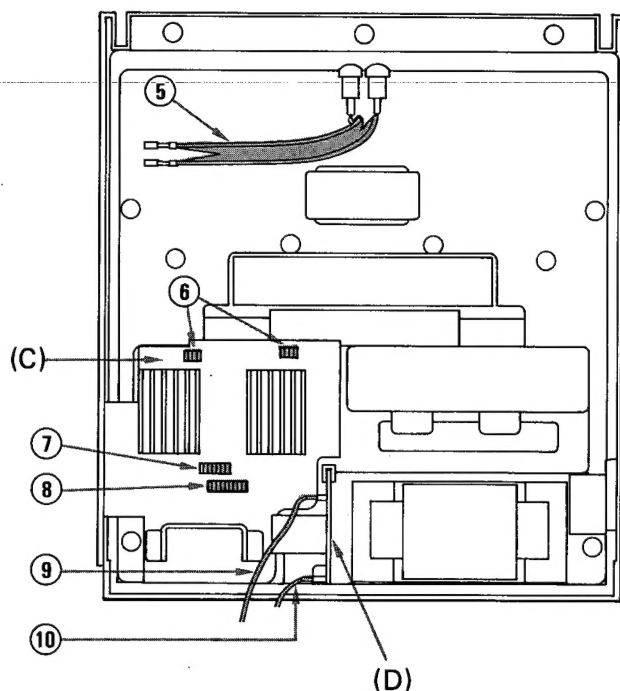
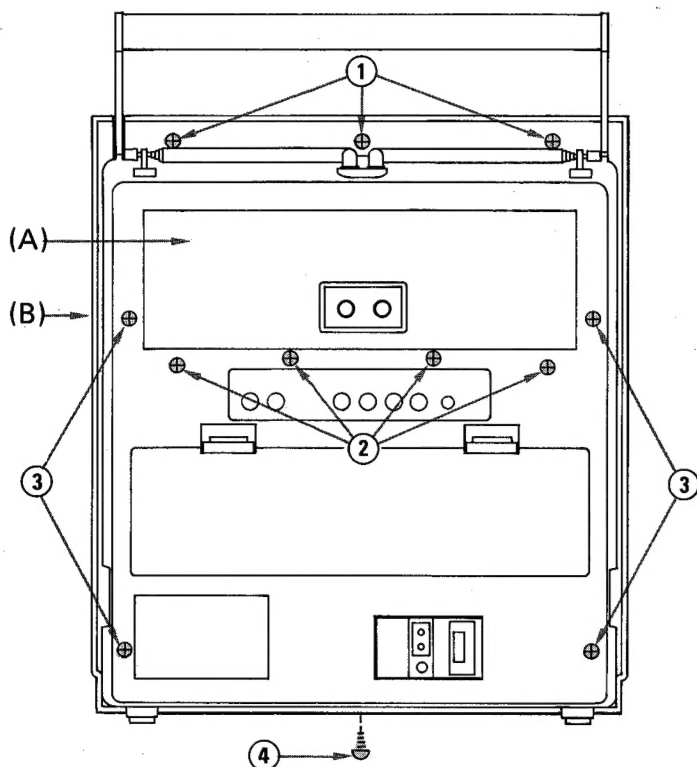
GENERAL REMARKS

Before disassembling the unit, spread a soft rubber mat or a cloth on the work bench to avoid scratches and grease spots on the unit.

Reassemble the unit correctly noting the kinds of fastening screws and leads. Please refer to the wiring diagrams and exploded views.

A. CABINET REAR PANEL REMOVAL

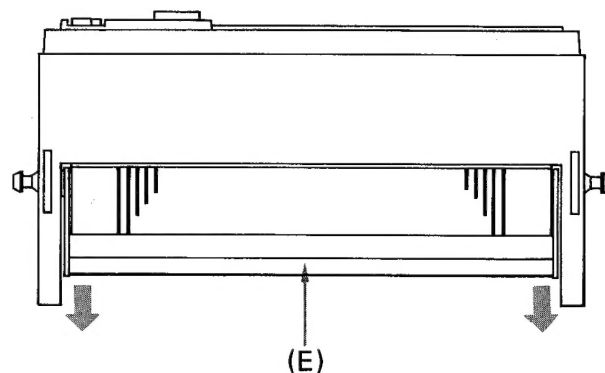
1. Remove the screws (1, 2, 3, and 4) securing the Rear Panel (A).
2. Pull out the Rear Panel from the Cabinet (B).



B. HANDLE REMOVAL

1. Remove the Handle (E) by pulling it out in the direction of the arrow. The handle holders are removed together with the handle. Reassemble the handle in reverse order.

(TOP VIEW)



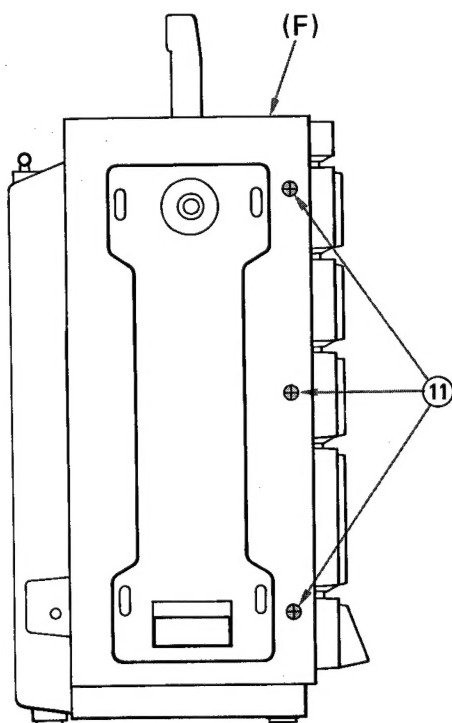
3. Disconnect the antenna feeder line (5) running to the RF, IF, MPX P.C.Board.
4. Disconnect the connectors (6, 7, and 8), running to the Main Amplifier P.C.Board (C), from the plugs.
5. Disconnect the two orange leads (9 and 10) running to the Power Supply P.C.Board (D). Then, the Rear Panel (A) will be completely separated from the Cabinet (B).

DISASSEMBLY INSTRUCTIONS (Continued)

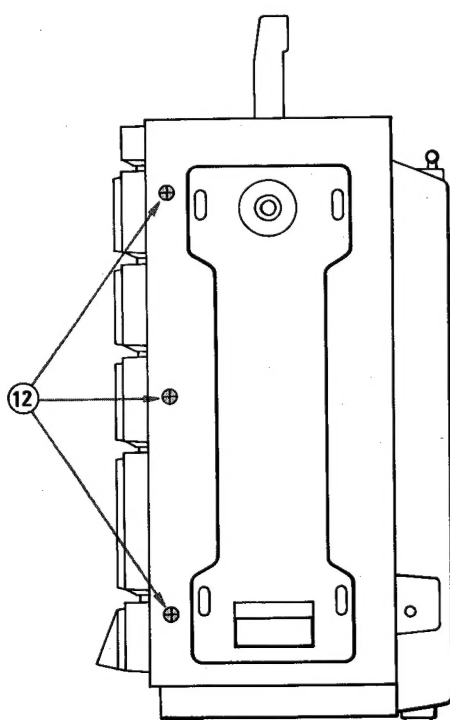
C. SIDE CABINET REMOVAL

1. Remove the six screws (11 and 12) securing the Side Cabinet (F).

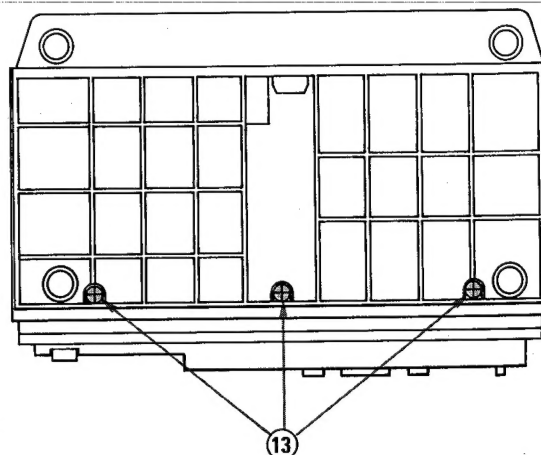
(LEFT VIEW)



(RIGHT VIEW)



(BOTTOM VIEW)

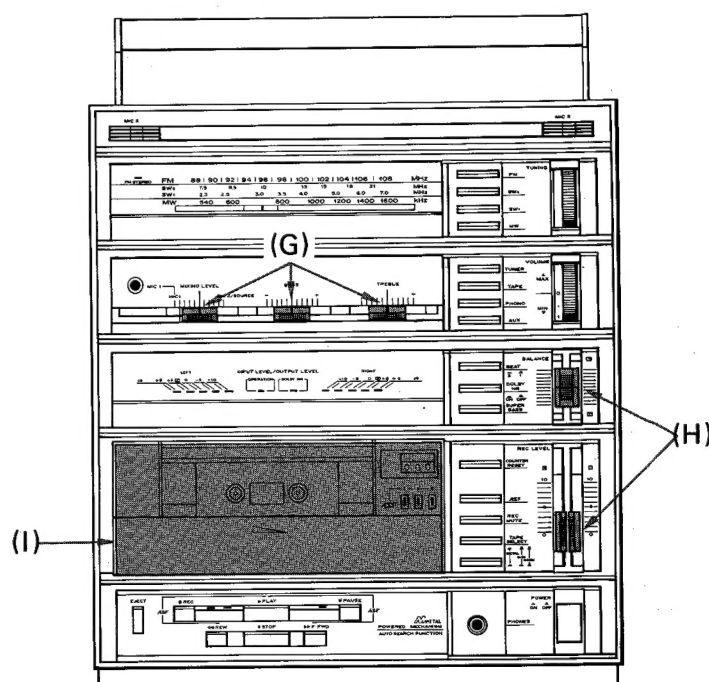


2. Remove the three screws (13) on the bottom of the Side Cabinet. The Side Cabinet can be completely separated from the unit.

3. A replacement or repair work of all components on the P.C. Boards becomes possible through the access left after the Side Cabinet has been removed.

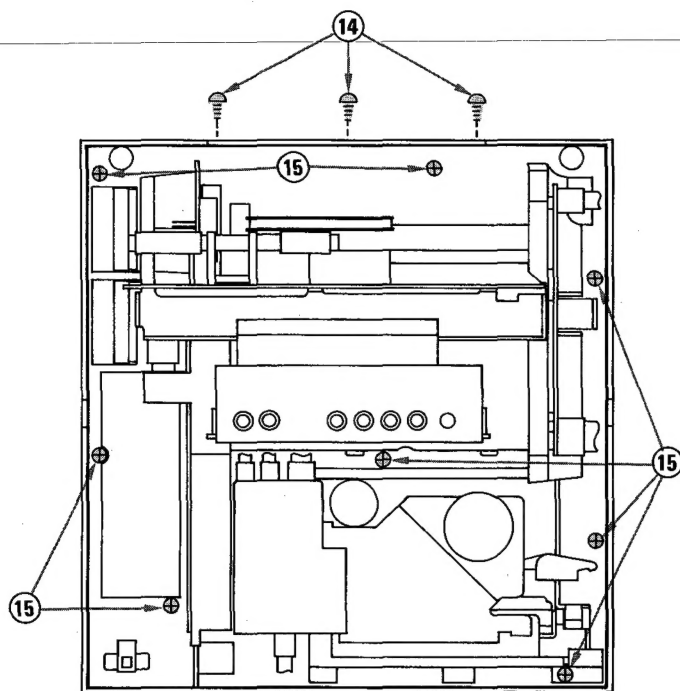
D. FRONT PANEL REMOVAL

1. Pull out the Mixing Level, Bass, and Treble Knobs (G).
2. Pull out the Balance and Rec Level L & R Knobs (H).
3. Pull out the Lid Assembly (I) on the cassette deck.



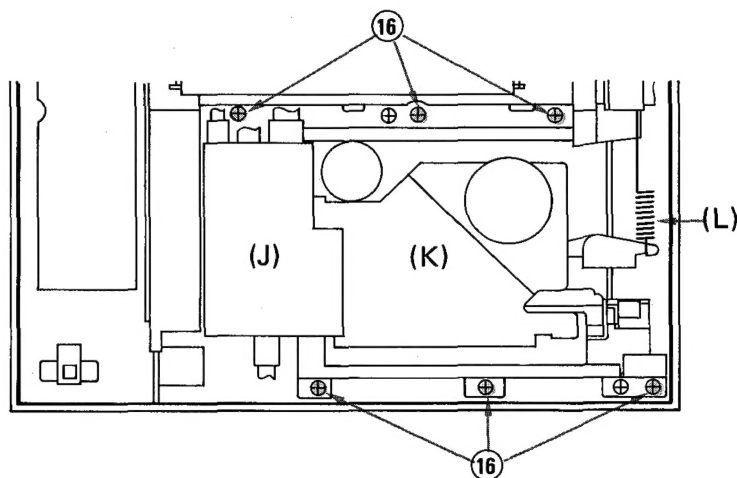
DISASSEMBLY INSTRUCTIONS (Continued)

4. Remove the three screws (14) and the eight screws (15) securing the Front Panel. Then, the Front Panel can be completely separated from the unit.

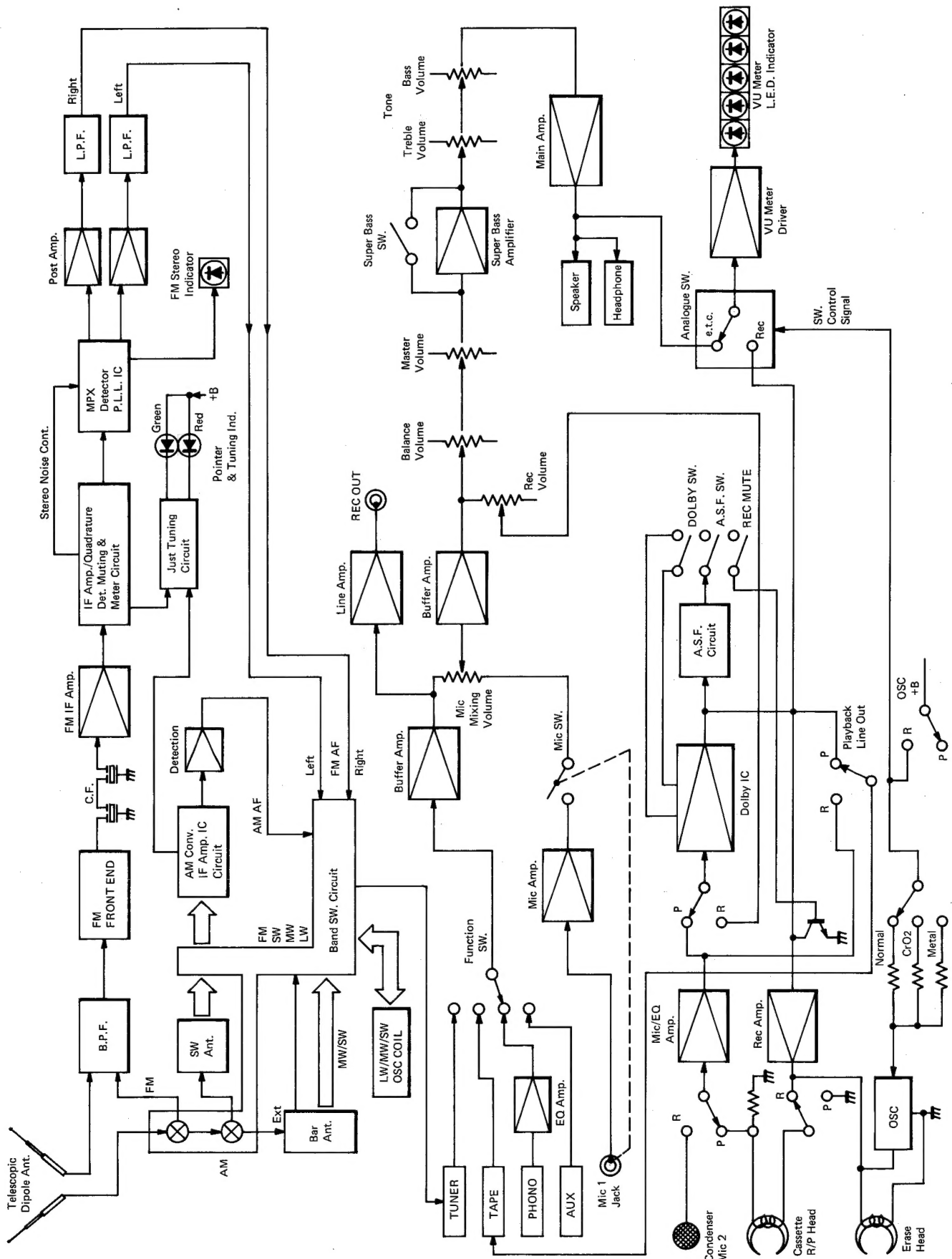


E. CASSETTE DECK UNIT REMOVAL

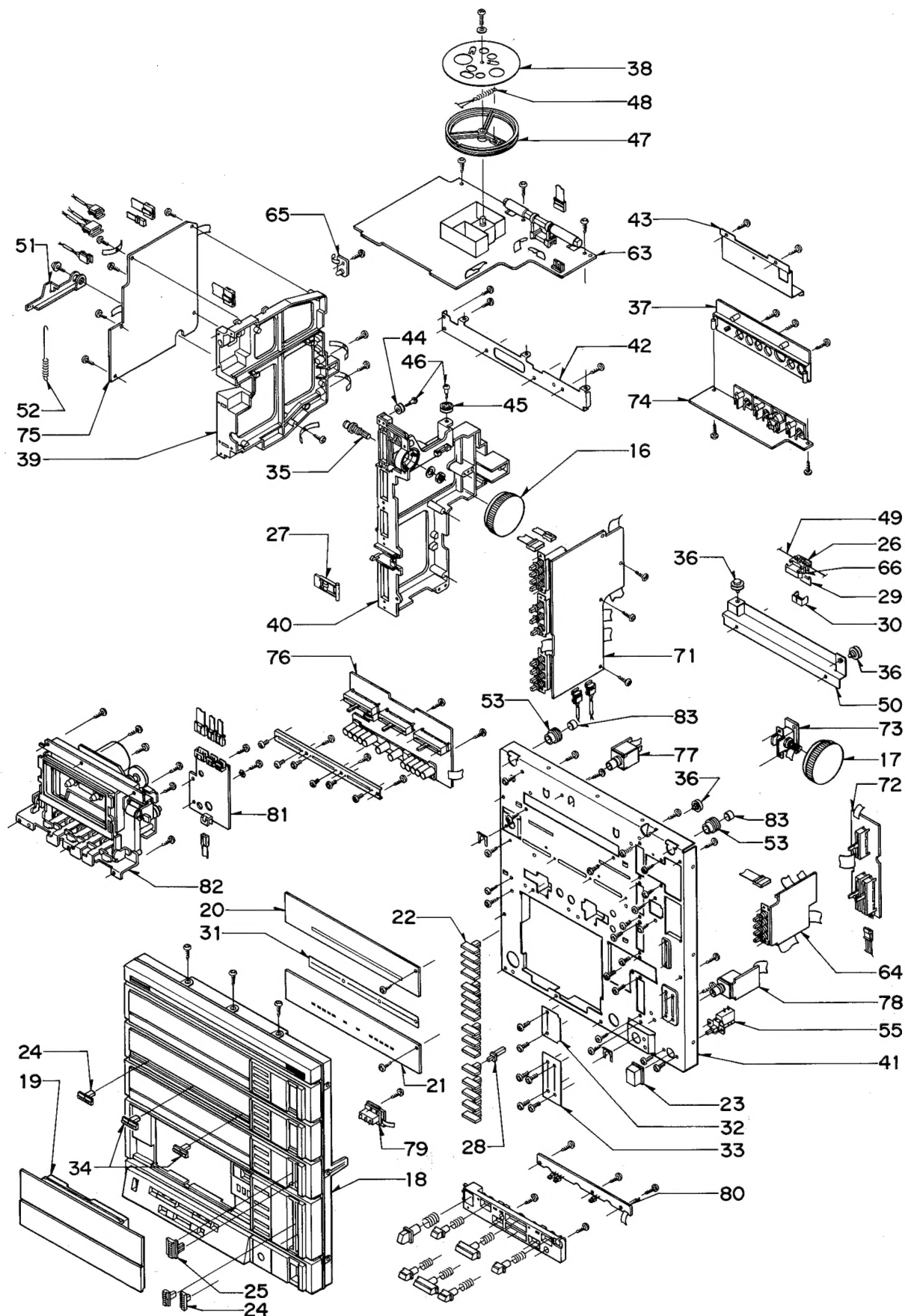
1. Pull out the four connectors connected to the A.S.F. Control P.C.Board.
2. Pull out the two connectors (Colors of wires: white/red and blue) connected to the Cassette R/P P.C.Board.
3. Remove the six screws (16) securing the Cassette Deck (K) to the Front Panel.
4. Disengage the Spring (L) from the Rec. Lever. Then, the Cassette Deck Unit can be separated from the Front Panel.



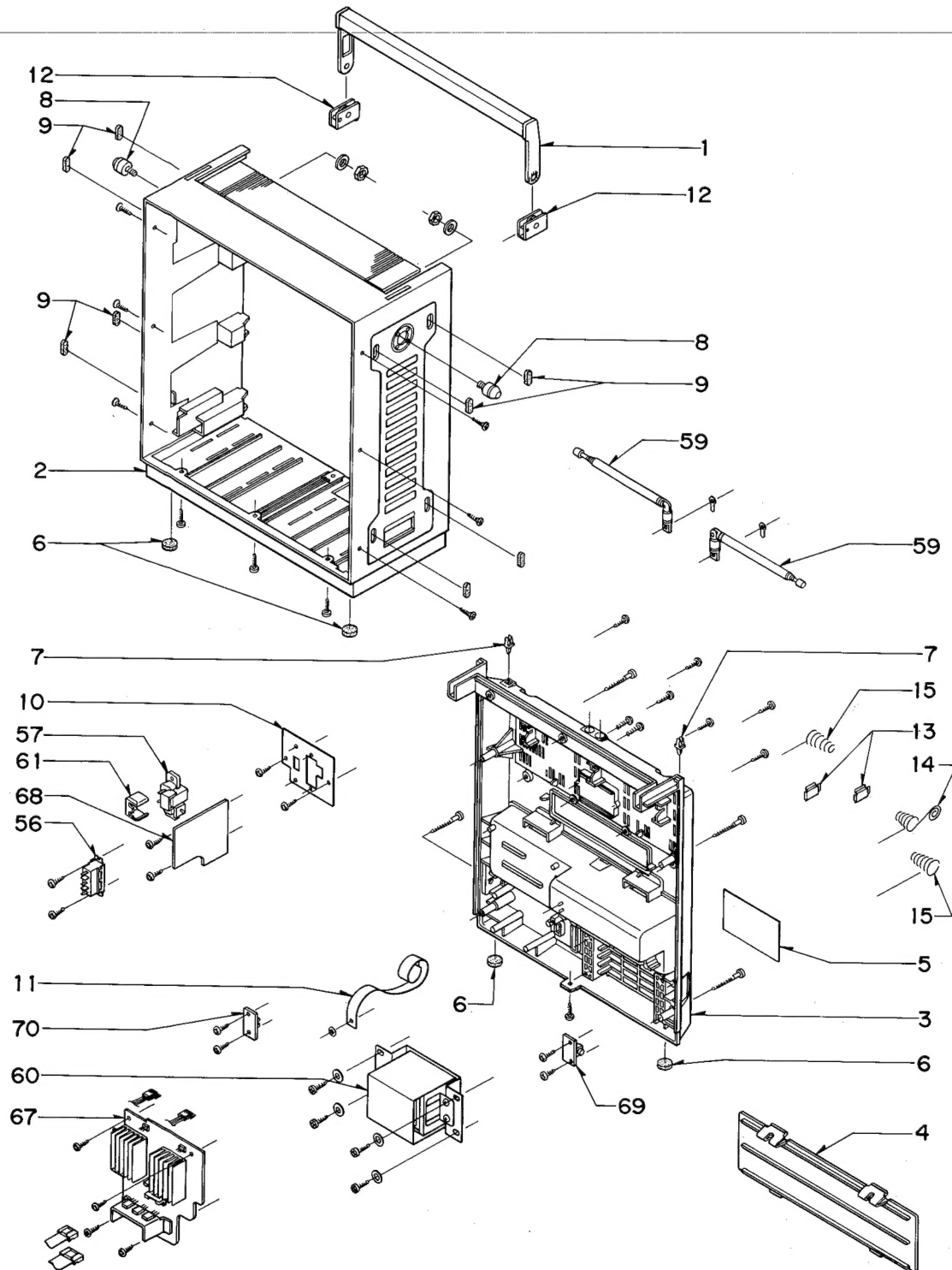
FUNCTIONAL BLOCK DIAGRAM



CABINET & CHASSIS EXPLODED VIEW

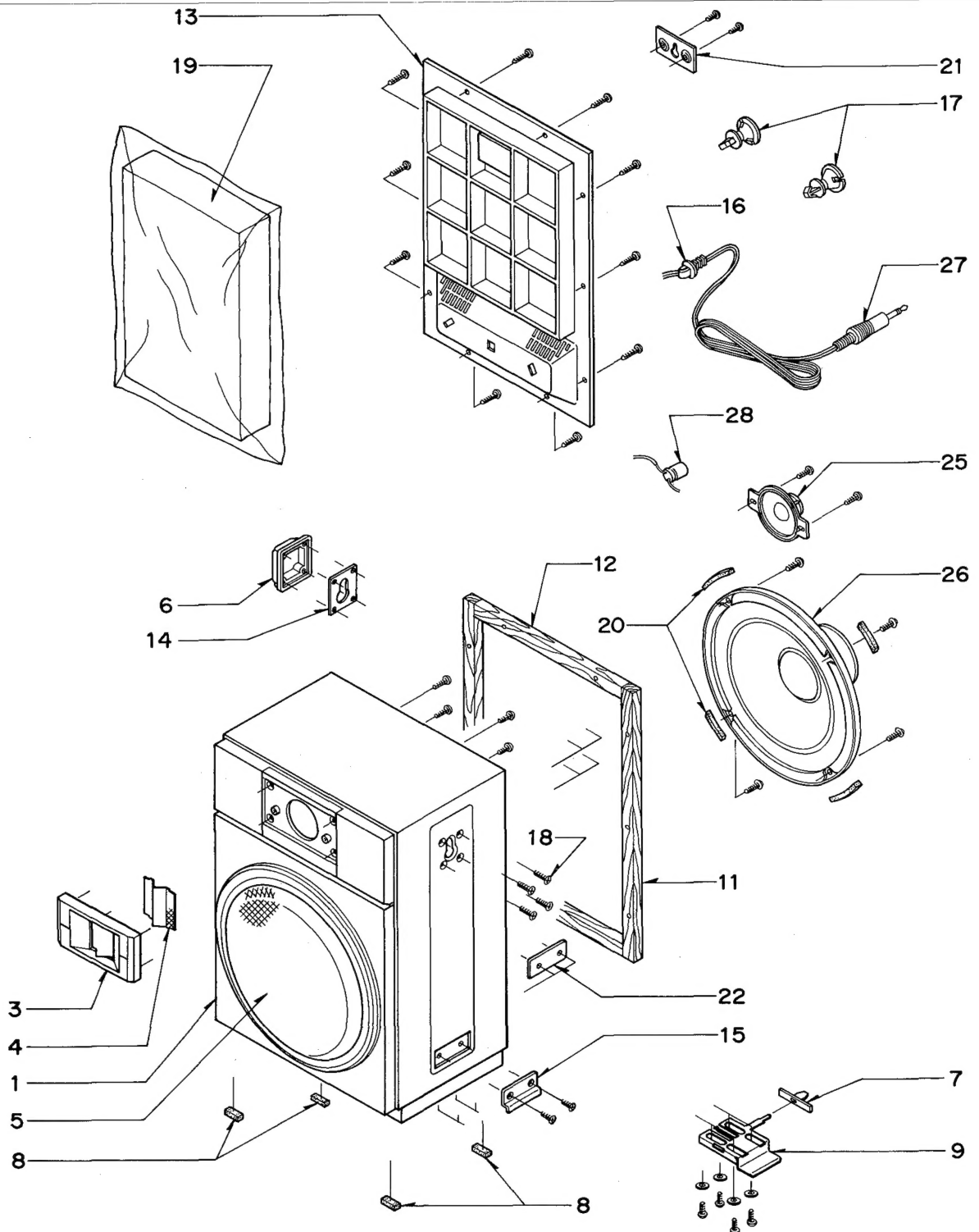


CABINET & CHASSIS EXPLODED VIEW (Continued)



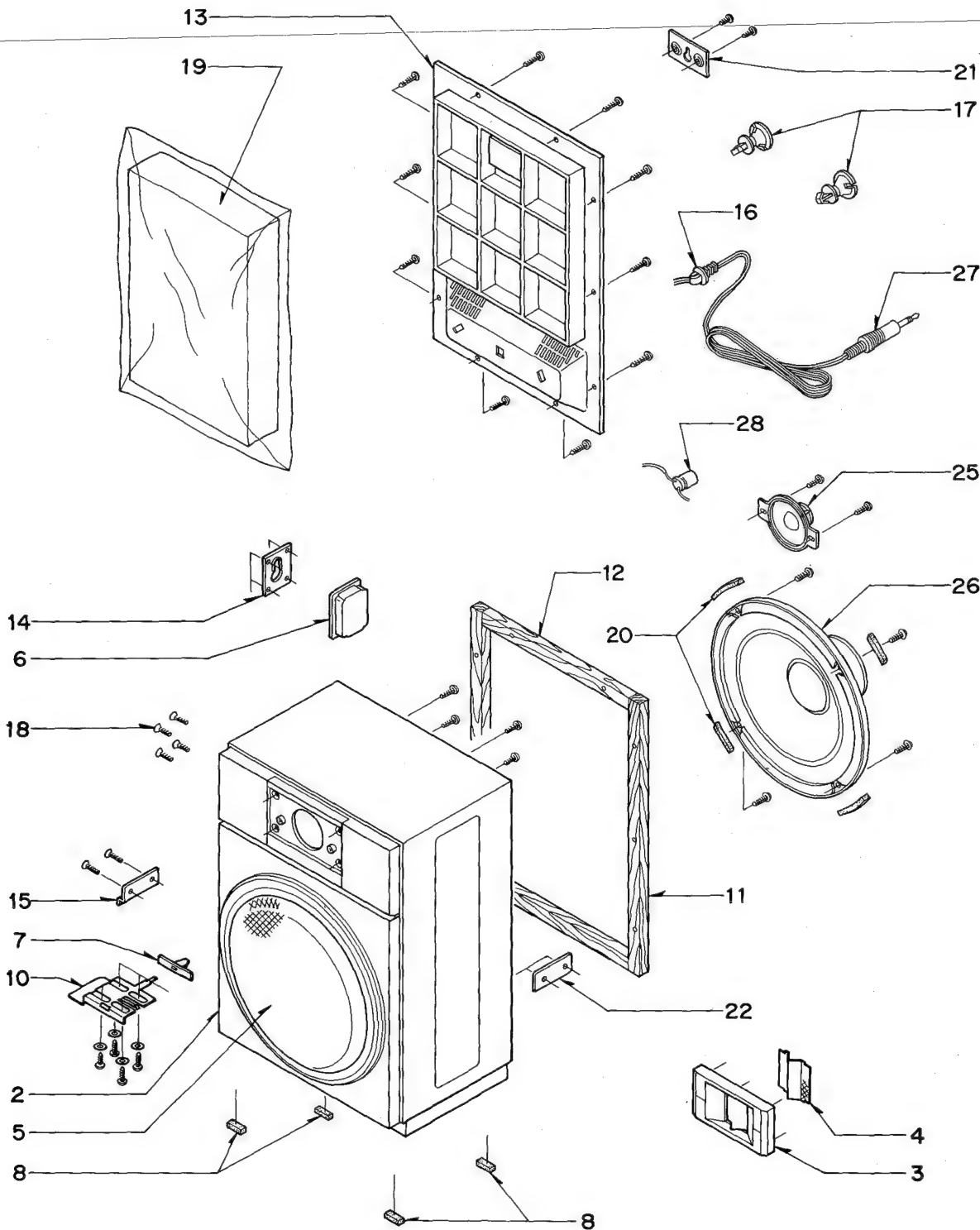
SPEAKER BOX EXPLODED VIEW

(LEFT SPEAKER)



SPEAKER BOX EXPLODED VIEW (Continued)

(RIGHT SPEAKER)



PARTS LIST

PACKING PARTS LIST

Ref. No.	Parts Number	Description
	131 6 1169 02603	Box Corrugate-EXP
	131 6 2119 02080	Bag Polyethylene-EXP (Speaker Box 2)
	131 6 2119 02270	Bag Polyethylene-EXP (Unit)
	131 6 3009 32940	Pad (Bottom)
	131 6 3009 32950	Pad (Top)
	131 6 3009 32960	Pad (Speaker Center)


ACCESSORIES PARTS LIST

Ref. No.	Parts Number	Description
	4 2369 70216	Power Cord Plug
	4 2419 71254	Cassette
	4 2432 00290	Line Cord
	131 6 2719 10801	Bag Fan
	131 6 4159 35802	Notes
	131 6 4159 37200	Notes
	131 6 4169 00103	Explanatory Booklet
	131 6 4519 15700	Guarantee Certificate
	141 2 3529 10600	Stopper Cassette

CABINET PARTS LIST

Ref. No.	Parts Number	Description
1	131 0 1002 10400	Handle Assy
2	131 2 1101 46700	Cabinet (Side)
3	131 2 1101 46801	Cabinet (Rear)
4	131 2 1107 24400	Lid (Battery)
5	131 2 1310 39103	Name Plate
6	131 2 1801 15900	Leg
7	131 2 3602 12300	Holder Antenna
8	131 2 4219 15500	Shaft
9	131 2 5205 26700	Cushion
10	131 2 3701 29900	Mount Electric Part
11	141 2 2149 15000	Ribbon Battery
12	141 2 2719 13800	Holder Handle
13	141 2 3829 04300	Terminal Battery
14	141 2 3829 20000	Spring Battery
15	141 2 3829 20900	Spring Battery

PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF AN UNIT. COMPONENTS INDICATED BY A MARK  IN THIS PARTS LIST AND THE SCHEMATIC DIAGRAM SHOW COMPONENTS WHOSE VALUE HAS SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS SPECIFIED ON THE FOLLOWING PARTS LIST BE USED FOR COMPONENT REPLACEMENT POINTED OUT BY THE MARK.

APPEARANCE PARTS LIST

Ref. No.	Parts Number	Description
16	131 0 1001 61500	Knob (Tuning)
17	131 0 1001 61501	Knob (Volume)
18	131 0 1016 40702	Panel Decorative Assy
	131 2 1202 19802	Escutcheon Dial
	131 2 1205 26700	Decorative Plate Dial
	131 2 1207 12500	Housing (Cassette)
	131 2 1407 13700	Cover Decorative (Mic)
	131 2 1601 76400	Knob (F.F. REW, Rec)
	131 2 1601 76500	Knob (Play, Stop)
	131 2 1601 76600	Knob (Eject)
	131 2 4220 10501	Ring Snap
	131 2 5101 21000	Spring
	131 2 5101 21100	Spring
19	131 0 2022 11400	Lid Assy
20	131 2 1201 37602	Plate Dial (Dial)
21	131 2 1201 37601	Plate Dial (Meter)
22	131 2 1601 75600	Knob (Push)
23	131 2 1601 75700	Knob (Power)
24	131 2 1601 75800	Knob (Slide Small)
25	131 2 1601 75900	Knob (Slide Big)
26	131 2 4101 21800	Pointer
27	131 2 4123 00300	Lever
28	131 2 4219 15300	Shaft
29	131 2 5205 24000	Cushion
30	131 2 6110 31200	Shelter Light
31	131 2 6113 45700	Shelter (Mic Tone)
32	131 2 6113 45800	Shelter (Balance)
33	131 2 6113 45900	Shelter (Record Level)
34	131 2 1601 75801	Knob (Slide Treble)

CHASSIS PARTS LIST

Ref. No.	Parts Number	Description
35	131 0 3003 22800	Shaft Dial Assy
36	131 0 3020 11000	Pulley Assy
37	141 0 3679 02501	Plate Jack Assy
38	131 2 3110 00800	Plate Pad Wire
39	* 131 2 3301 28500	Chassis (Left)
40	* 131 2 3301 28600	Chassis (Right)
41	* 131 2 3305 33100	Panel Front
42	131 2 3614 25900	Mount P.C.B.
43	131 2 3615 11000	Mount Terminal
44	131 2 4107 10200	Pulley
45	131 2 4107 10300	Pulley
46	131 2 4108 11200	Spindle Pulley
47	131 2 4109 11500	Drum
48	131 2 4111 00200	Spring Dial Cord
49	131 2 4112 10200	Dial Cord
50	131 2 4120 13500	Slide Rail Pointer
51	131 2 4123 00400	Lever (Record)
52	131 2 5101 21200	Spring (Record)
53	131 2 4459 24400	Holder Microphone

PARTS LIST (Continued)

ELECTRICAL PARTS LIST

Ref. No.	Parts Number	Description
55	△ 4 2312 05030	Switch Push Power
56	△ 4 2312 05390	Slide Switch
57	△ 4 2352 01460	AC/DC Power Socket
59	4 2442 00060	Antenna
60	△ 4 2512 15720	Power Transformer
61	141 2 4359 21300	Socket Cover (AC/DC Select)
63	* 131 0 4001 10280	RF, IF, MPX P.C.B. Assy
64	* 131 0 4001 10290	Band SW. P.C.B. Assy
65	* 131 0 4001 10300	Stereo Ind. P.C.B. Assy
66	* 131 0 4001 10310	Pointer/Tune P.C.B. Assy
67	* 131 0 4001 08902	Main Amp. P.C.B. Assy
68	* 131 0 4001 08912	Power Supply P.C.B. Assy
69	* 131 0 4001 08920	Speaker Out R P.C.B. Assy
70	* 131 0 4001 08930	Speaker Out L P.C.B. Assy
71	* 131 0 4001 10320	Function & Control P.C.B. Assy
72	* 131 0 4001 10330	Balance/Rec P.C.B. Assy
73	* 131 0 4001 10340	Volume P.C.B. Assy
74	* 131 0 4001 10350	Phono EQ & RCA Terminal P.C.B. Assy
75	* 131 0 4001 10360	Cassette R/P P.C.B. Assy
76	* 131 0 4001 10370	Tone Arm & VU Meter P.C.B. Assy
77	* 131 0 4001 10380	Mic Jack P.C.B. Assy
78	* 131 0 4001 10390	Headphone P.C.B. Assy
79	* 131 0 4001 10400	ASF Ind. P.C.B. Assy
80	* 131 0 4001 10410	Deck Mode Ind. P.C.B. Assy
81	* 131 0 4001 09050	ASF Control P.C.B. Assy
82	* 4 1412 00102	Cassette Deck Unit (ST-80TC)
83	4 1532 00061	Microphone Condenser (Mic 2)
C01	C1HYDZ473A	Ceramic 0.047 μ F 50V +80,-20%
D01	DWW-LN224RP	L.E.D., LN224RP (Red)
D02	DWW-LN324GP	L.E.D., LN324GP (Green)
D03	DWW-LN424YP	L.E.D., LN424YP (Orange)

SPEAKERS BOX PARTS LIST

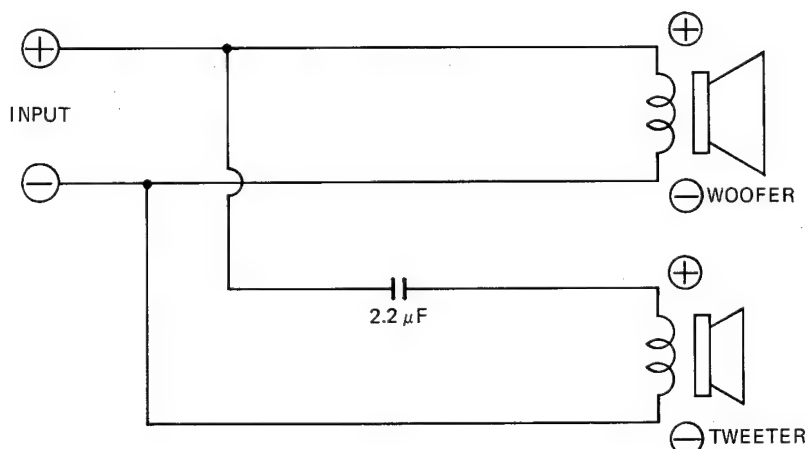
Ref. No.	Parts Number	Description
1	131 2 1113 36200	Enclosure Speaker, Left
2	131 2 1113 36201	Enclosure Speaker, Right
3	131 2 1116 20500	Frame (Tweeter)
4	131 2 1402 38800	Net (Tweeter)
5	131 2 1402 38900	Net (Woofer)
6	131 2 1410 27100	Cover (Box Side)
7	131 2 1601 77000	Knob
8	131 2 1801 16100	Leg
9	131 2 2305 11600	Metal Slide, Left
10	131 2 2305 11601	Metal Slide, Right
11	131 2 3205 11900	Wood Reinforce
12	131 2 3205 11901	Wood Reinforce
13	131 2 3306 34700	Panel Rear
14	131 2 3310 16900	Metal Support
15	131 2 3310 17000	Metal Support
16	131 2 3608 15200	Clamp Wire
17	131 2 3608 15300	Clamp Wire
18	131 2 4201 27102	Screw
19	131 2 5203 24100	Felt
20	131 2 5206 13101	Mold Plane
21	141 2 3519 50400	Hanger Speaker
22	141 2 4119 01700	Nut Fix Speaker Box

SPEAKERS ELECTRICAL PARTS LIST

Ref. No.	Parts Number	Description
25	4 1512 01161	Speaker 5 cm (Tweeter)
26	4 1512 01280	Speaker 20 cm (Woofer)
27	131 0 4005 04500	Speaker Cord Assy
28	C1HAEM225P	Electrolytic 2.2 μ F 50V \pm 20%

*—Not a service part.

SPEAKER BOX SCHEMATIC DIAGRAM



ELECTRICAL ADJUSTMENTS

EQUIPMENT REQUIRED

- Audio Signal Generator
- Attenuator
- Frequency Counter
- VTVM (2 sets)
- Dummy Load (47k-ohm)
- Dualtrace Synchroscope
- DC Voltage Regulator
- Test Tapes
 - * 3kHz Test Tape (Example: TEAC MTT-111) for Tape Speed Adjustment
 - * 10kHz Test Tape (Example: TEAC MTT-215C) for Head Azimuth Adjustment
 - * Test Tape for DOLBY Calibration Level (Example: TEAC MTT-150) in Playback Gain Adjustment
- Test Tapes for Recording and Playback Operations
 - * Normal Tape (Example: TDK AC-222)
 - * Chromium Dioxide Tape (Example: TDK AC-512)
 - * Metal Tape (Example: TDK AC-711)
- Alignment Tool

Before the Electrical Adjustment, set the unit and measuring instruments as follows:

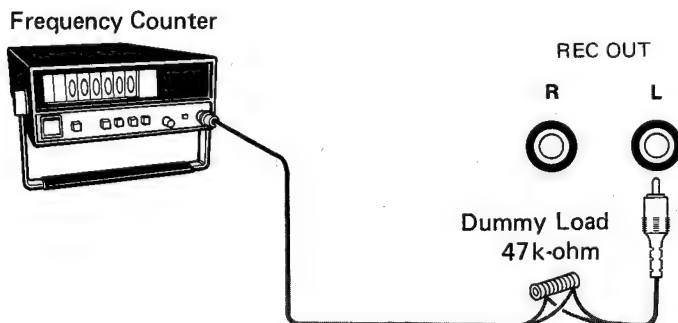
- * Function Switch TAPE
- * Dolby NR Switch OFF
- * Beat Switch 2
- * Tape Select Switch NORMAL
- * Record Level Controls Maximum
- * Audio Signal Generator Output 1kHz, 0dB (1V)
- * Voltage Regulator Output 15V

NOTE:

1. Supply 15V DC to the unit from the Voltage Regulator at the adjustments.
2. The Electrical Adjustment should be performed in the order as described below.

TAPE SPEED ADJUSTMENT

1. Connect the frequency counter to the left or right channel REC OUT as illustrated. Then, insert a 3kHz test tape (Example: TEAC MTT-111) into the cassette compartment.

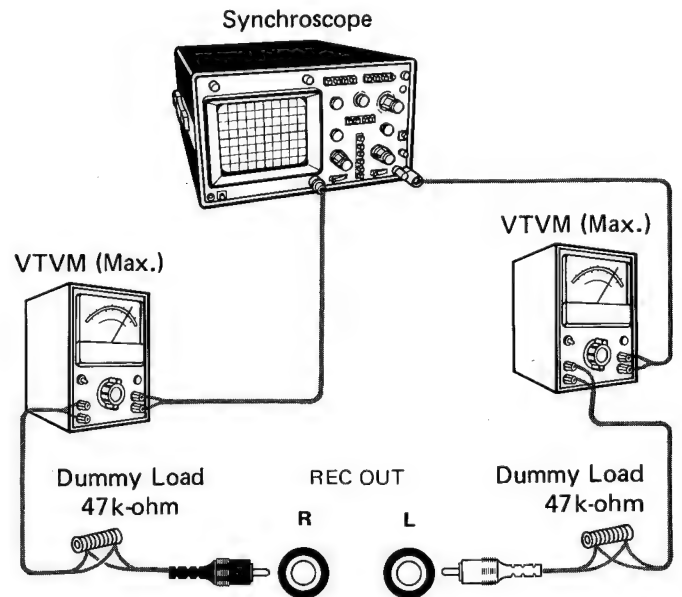


2. Adjust the tape speed by slowly turning the Adjusting Volume inside the motor until the frequency counter reads 3,000Hz ($\pm 3\%$).

HEAD AZIMUTH ADJUSTMENT

1. Remove the cassette compartment lid from the unit and connect the dualtrace synchroscope and the VTVM to both channel REC OUT as illustrated. Then, set the dualtrace synchroscope as follows:

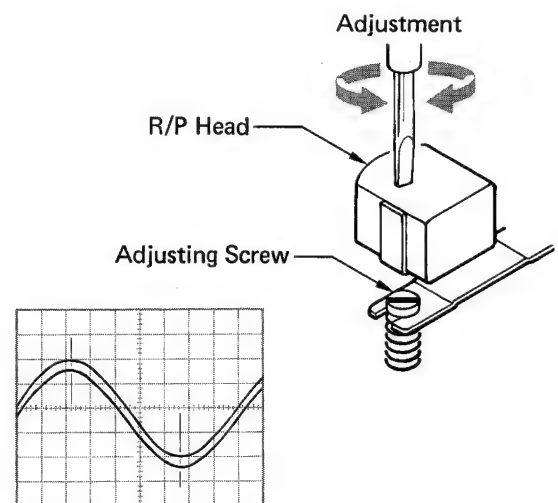
- * MODE CHOP (chopped)
- * SOURCE INT (internal), CH1 or CH2
- * SWEEP MODE AUTO (automatic)



NOTE:

Adjust the field on the synchroscope with the VOLT. ADJ. and TIME ADJ.

2. Insert a 10kHz test tape (Example: TEAC MTT-215C) into the cassette compartment. While playing back the test tape, turn the azimuth adjusting screw until the wave forms of the right and left channels are superimposed and set to optimum at maximum reading on the VTVM.



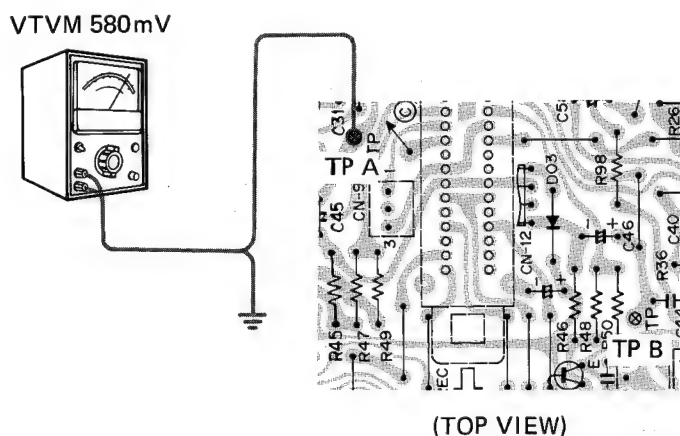
3. After the adjustment, secure the adjusting screw with paint or glue.

ELECTRICAL ADJUSTMENTS (Continued)

PLAYBACK GAIN ADJUSTMENT

LEFT CHANNEL

1. Connect the VTVM to the test point TP-A as illustrated and insert a test tape for Dolby Calibration Level (Example: TEAC MTT-150) into the cassette compartment.



2. Check that the VTVM reads 580mV for the output of the left channel while playing back the test tape.
3. If necessary, adjust the output to the specified one by turning VR01 while the test tape is played back.

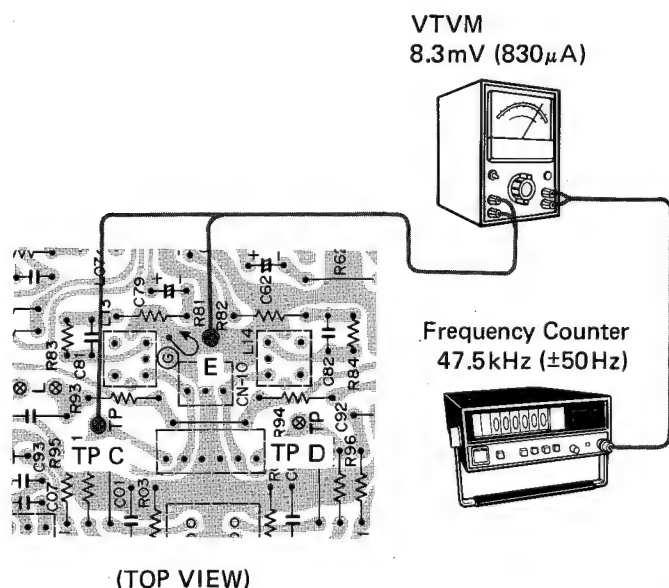
RIGHT CHANNEL

Connect the VTVM to the test point TP-B. Then, adjust VR02 for the right channel by following the same procedure as in LEFT CHANNEL.

OSCILLATION FREQUENCY AND RECORDING BIAS ADJUSTMENT

LEFT CHANNEL

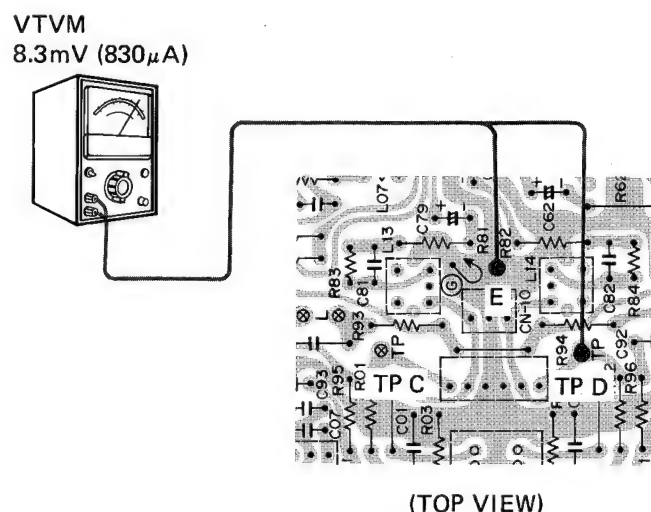
1. Connect the VTVM to the test point TP-C and the frequency counter to the output terminals of the VTVM as illustrated.



2. Insert a cassette tape into the cassette compartment and set the unit in the recording mode.
3. Turn the core of the oscillation transformer (L02) in the Function & Control P.C.Board with an alignment tool until the frequency counter reads 47.5kHz (± 50 Hz).
4. Set the Tape Select Switch to "METAL" and adjust VR01 in the Function & Control P.C.Board until the VTVM reads 8.3mV ($830\mu A$) with the unit in the recording mode.

RIGHT CHANNEL

Connect the VTVM to the test point TP-D as illustrated and adjust VR02 in the Function & Control P.C.Board by following the same procedure as in LEFT CHANNEL until the VTVM reads 8.3mV (830 μ A).



ELECTRICAL ADJUSTMENTS (Continued)

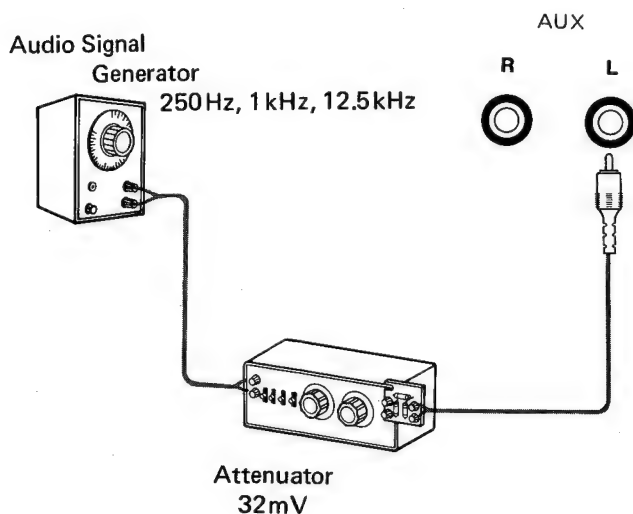
RECORD & PLAY FREQUENCY RESPONSE ADJUSTMENT

• Normal Tape

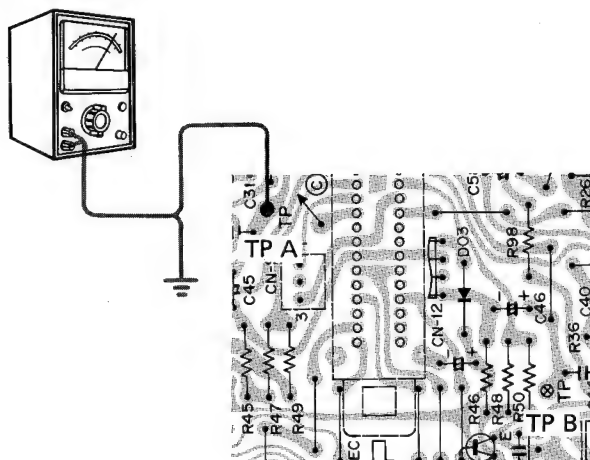
Set the Tape Select Switch to "NORMAL" and insert a normal tape (Example: TDK AC-222) into the cassette compartment. Then, make the adjustment by the following procedures.

LEFT CHANNEL

1. Connect the audio signal generator and the attenuator to the left channel AUX, and the VTVM to the test point TP-A in the Cassette R/P P.C.Board as illustrated.



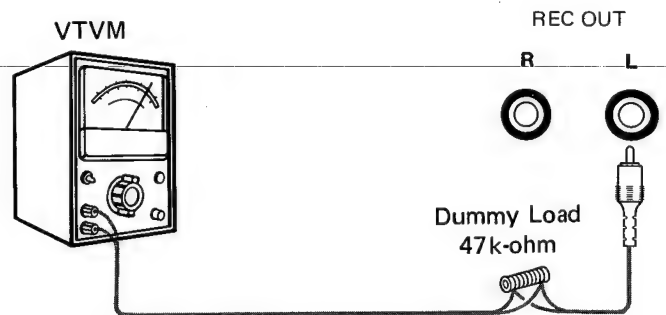
VTVM 32mV



(TOP VIEW)

2. Alternately record the 250Hz, 1kHz, and 12.5kHz signals from the audio signal generator at 32mV on the tape several times.

3. Connect the VTVM to the left channel REC OUT as illustrated.



4. Perform the recording and playback operations with the DOLBY NR Switch turned off. Then, confirm that the play frequency response is within $250\text{Hz} \pm 1.5\text{dB}$ and $12.5\text{kHz} \pm 2.5\text{dB}$ to the base value (1kHz, 0dB). Also confirm that the same specification is obtained with the DOLBY NR Switch turned on.
5. If necessary, adjust the output by turning VR01 in the Function & Control P.C.Board and re-check the output of each signal by playing back the signals after recording operation of the signals.
6. Repeat the above adjustment until the specified output is obtained.

RIGHT CHANNEL

Connect the audio signal generator and the attenuator to the right channel AUX, and the VTVM to the right channel REC OUT. Then, adjust VR02 in the Function & Control P.C.Board for the right channel by following the same procedure as in LEFT CHANNEL.

• Chromium Dioxide Tape

Set the Tape Select Switch to "CrO₂" and insert a chromium dioxide tape (Example: TDK AC-512) into the cassette compartment.

- * Record a signal on the tape and play it back by following the same procedures as in "Normal Tape". Then, the specified output will be obtained.

• Metal Tape

Set the Tape Select Switch to "METAL" and insert a metal tape (Example: TDK AC-711) into the cassette compartment.

- * Record a signal on the tape and play it back by following the same procedures as in "Normal Tape". Then, the specified playback output will be obtained.

NOTE:

If the specified output was not obtained in the record & playback frequency response adjustment for chromium dioxide or metal tapes, repeat the adjustment beginning with the normal tape.

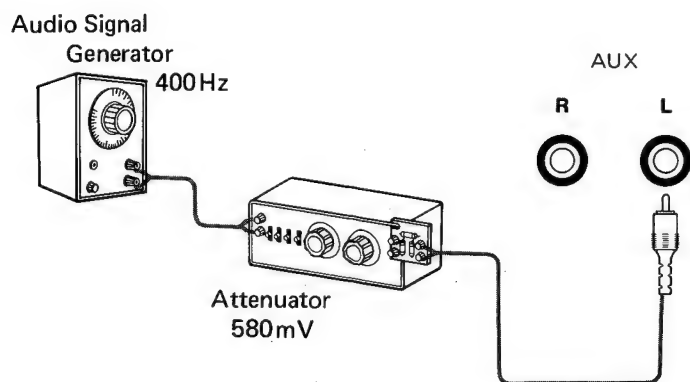
ELECTRICAL ADJUSTMENTS (Continued)

RECORD & PLAYBACK GAIN ADJUSTMENT

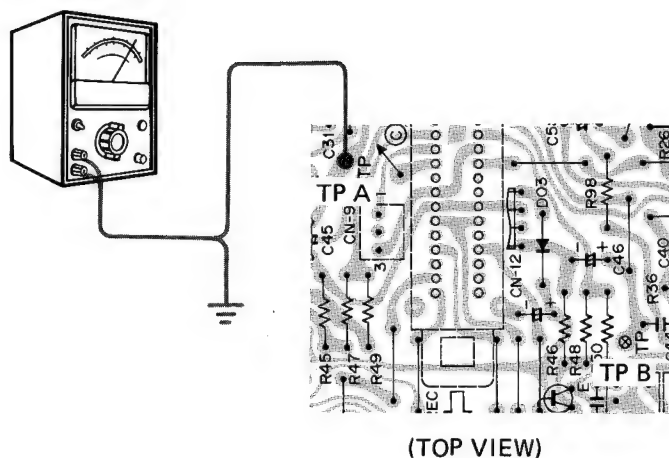
Set the Tape Select Switch to "METAL" and insert a metal tape (Example: AC-711) into the cassette compartment. Then, perform the adjustment by the following procedure.

LEFT CHANNEL

1. Connect the audio signal generator and the attenuator to the left channel AUX, and the VTVM to the test point TP-A as illustrated.
2. Pull out the connector of the orange wire (used for OSC +B), which is running to the Cassette R/P P.C.Board, to stop the bias current.

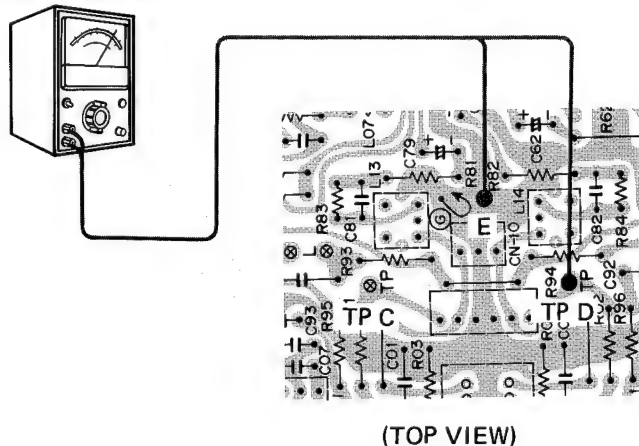


VTVM 580mV



3. Record the 400Hz signal at 580mV from the audio signal generator on the tape.
4. Adjust the voltage of TP-C to 0.75mV with VR03, so that the recording current becomes 75μA.

VTVM
0.75mV (75μA)



5. While playing back the recorded signal, check that the signal output is 580mV on the VTVM.
6. If necessary, adjust VR03 and re-check the reading of the VTVM by playing back the signal after the recording operation for the signal.
7. Repeat the above adjustment until the specified output is obtained.

RIGHT CHANNEL

Connect the audio signal generator and the attenuator to the right channel AUX, and the VTVM to the test point TP-B. Then, adjust VR04 for the right channel by following the same procedure as in LEFT CHANNEL.

LEVEL METER ADJUSTMENT

1. Feed the signal of 400Hz from AUX. Adjust the Rec. Level VR or audio oscillator output, so that the output of TP-A and TP-B on the Cassette R/P P.C.Board becomes 490mV.
2. Under the above condition, turn VR01 and VR02 on the VU Meter P.C.Board until the fourth LED in the Level Meter lights dimly.
3. Change the input, so that the voltage of TP-A and TP-B becomes 580mV. Then, confirm that the fourth LED in the Level Meter is completely on. The fifth LED should not be on at this time.
4. Increase the input level. Then, confirm that the fifth LED lights up when the voltage of TP-A and TP-B becomes more than 700mV (approx.).

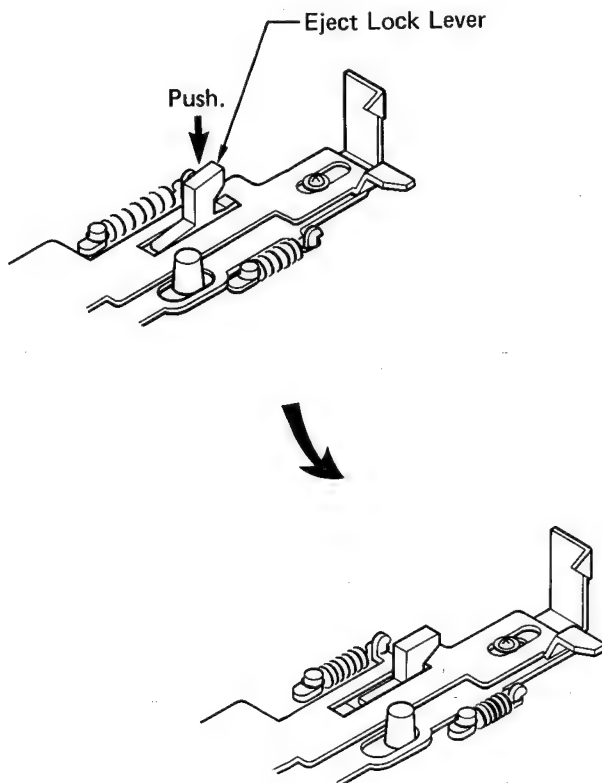
MECHANICAL ADJUSTMENTS

EQUIPMENT REQUIRED

- Cassette-type Torquemeter (100g-cm/160g-cm)
- Silicone Grease (SHIN-ETSU SILICONE: KS-64)
- Round-nose Pliers
- Plus Screwdriver
- Paint or glue

GENERAL REMARKS

- Before adjusting the mechanism of the unit, clean the tape contacting surfaces with a soft cloth soaked in alcohol. Trouble may occur because of oil and grease stains.
- The belts must be kept clean while an adjustment or repair work is performed.
Silicone grease (SHIN-ETSU SILICONE KS-64) is applied to the Wind Belt to protect it from abrasion.
- Silicone grease is not applied to the wind belt for servicing.
- If the Pinch Roller or belt has quality deterioration such as scratches, replace it with a new one.
- This mechanism does not function when power is not supplied and any one of the buttons is pressed.
- The mechanism stops functioning soon when the cassette holder is opened and one of the select buttons (except for the Pause button) is pressed because the Eject Plate and the Lock Plate are locked by the Eject Lock Lever.
If the mechanism is required to function under this condition, push the Eject Lock Lever as illustrated, so that the Lever is released and the mechanism functions normally.



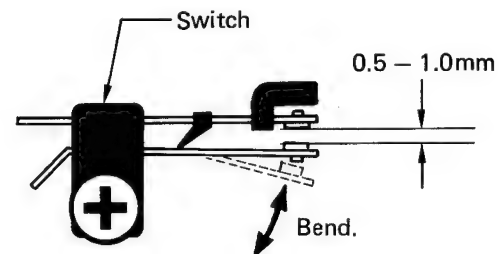
Position Adjustment of Leaf Switches

This model has the following five leaf switches. Checking and adjustment for each switch shall be conducted in accordance with each adjusting items. The unit should be set in the stop mode at each adjustment.

- * Trigger Switch
- * Motor Switch
- * Pause Switch
- * Play Muting Switch
- * FF REW (ASF) Switch

NOTE:

The clearance of the switch contacts should be 0.5 – 1.0mm when the switch is not mounted on the unit. If not, adjust the clearance by carefully bending the contacts.

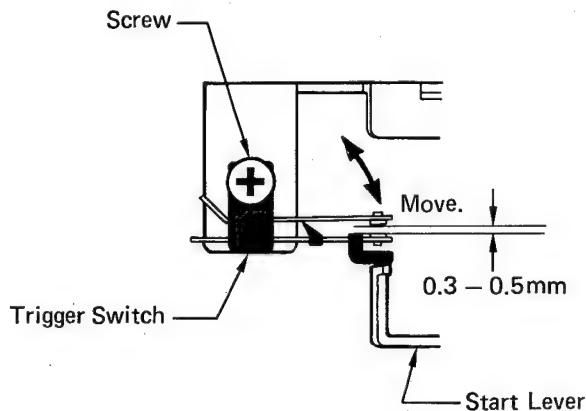


MECHANICAL ADJUSTMENTS (Continued)

1. Trigger Switch

This switch works as a trigger to make the mechanism function. When one of the select buttons (except for the Record button) is pressed, the trigger switch is turned on by the Start Lever, so that the Motor starts rotating. After that, this switch is turned off when the mechanism has completely finished its function.

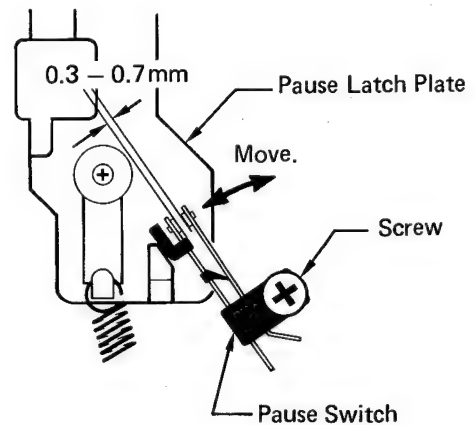
- * Check that the Trigger Switch touches the Start Lever and the clearance of the switch contacts is 0.3 – 0.5mm.



3. Pause Switch

This switch is used to light the LED which indicates the pause mode and is turned on or off by the Pause Latch Plate when the Pause button is pressed.

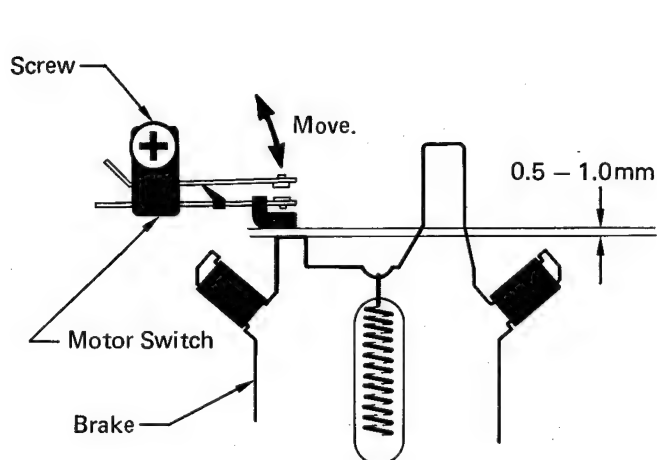
- * Check that the clearance of the switch contacts is 0.3 – 0.7mm with the Pause Switch in contact with the Pause Latch Plate as illustrated.



2. Motor Switch

This switch is connected in parallel to the Trigger Switch. The driving motor rotates the Flywheel and the rotational force transferred by the Actuate Gear makes the mechanism function. Then, the motor switch is turned on by the brake.

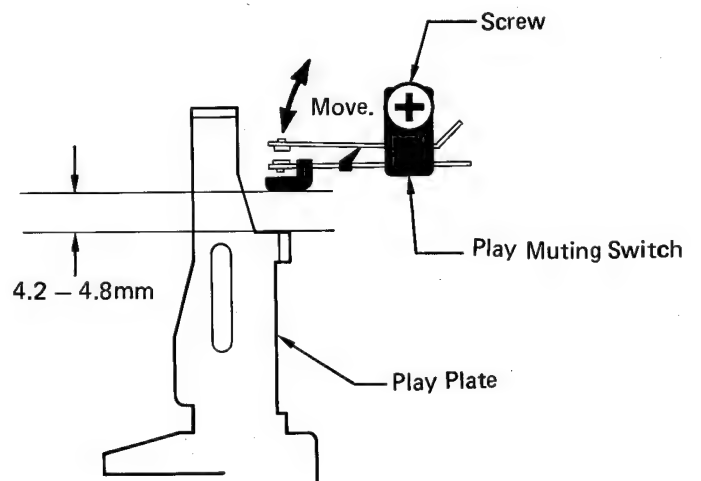
- * Check that the clearance between the Motor Switch and Brake is 0.5 – 1.0mm.



4. Play Muting Switch

This switch is turned on by the Play Plate when the unit is set in the recording or playback mode, and it turns off the muting circuit.

- * Check that the clearance between the Play Muting Switch and the Play Plate is 4.2 – 4.8mm as illustrated.

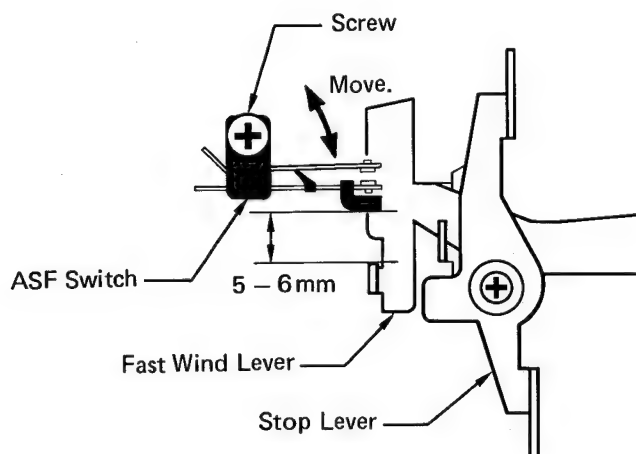


MECHANICAL ADJUSTMENTS (Continued)

5. FF REW (ASF) Switch

This switch is turned on by the Fast Wind Lever when the unit is set in the cue or review mode by pressing the F.FWD or Rewind button in the playback mode. It also passes current into the muting circuit and the solenoid. The ASF circuit is functioning and the transistor Q01 becomes conductive at this time.

- * Check that the clearance between the ASF switch and the Fast Wind Lever is 5 – 6mm as illustrated.

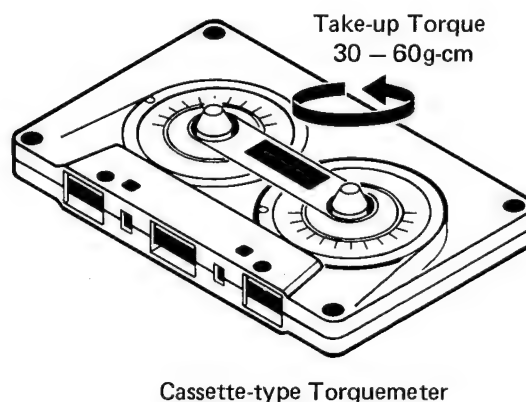


Loosen the screws fastening each switch and move the switches to the specified position if position adjustments are required.

After adjustment, tighten the screws and secure the switches with paint or glue.

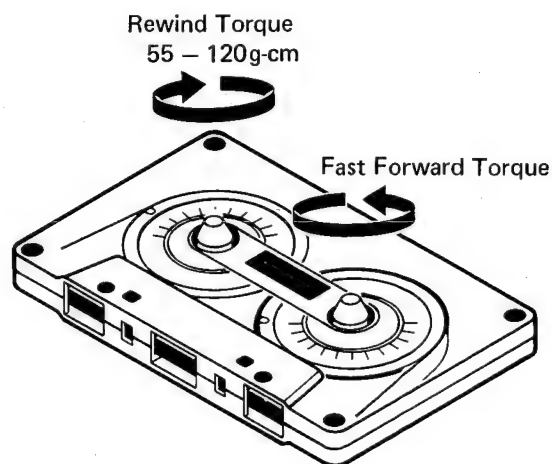
Take-up Torque

1. Insert a cassette-type torquemeter (100g-cm) into the cassette compartment and set the unit in the playback mode. Then, check that the take-up torque is 30 – 60g-cm.
2. If not, replace the Friction with a new one.



F.FWD and Rewind Torques

1. Insert a cassette-type torquemeter into the cassette compartment and measure the fast forward and rewind torques. Check that each torque is 55 – 120g-cm.

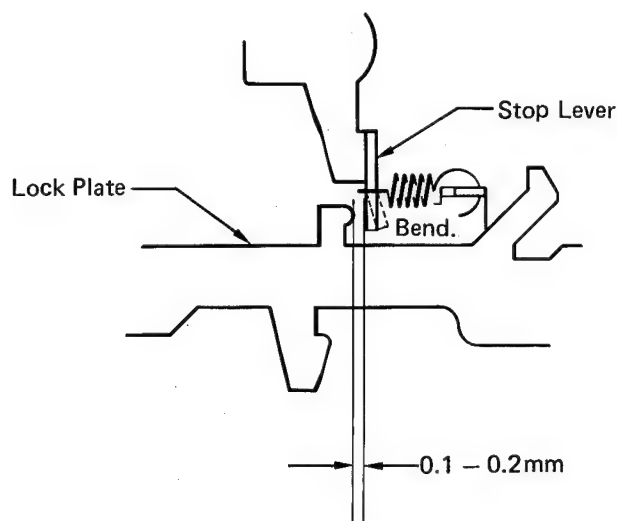


2. If more than the specified torque is obtained, apply a little amount of silicone grease (Example: KS-64) into the groove of the belt engaged in the Fast Wind Gear, rotate the Fast Wind Gear, and apply silicone grease to the Wind Belt.
3. If less than the specified torque is obtained, replace the Wind Belt with a new one and apply a little amount of silicone grease (Example: KS-64) to the Wind Belt in the same manner as in item 2.

MECHANICAL ADJUSTMENTS (Continued)

Mulfunction of Automatic Shut-off Mechanism

1. If the unit is set in the stop mode while the tape is running, check that the clearance between the Stop Lever and the Lock Plate is 0.1 – 0.2mm as illustrated.
2. If necessary, adjust the clearance by bending the Stop Lever as illustrated.

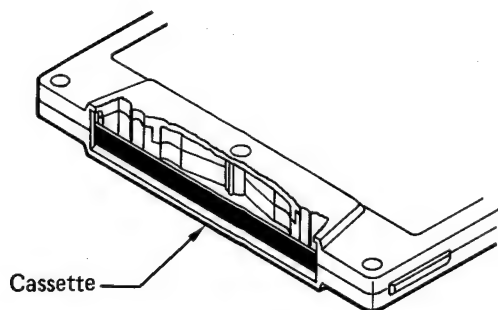


3. When the unit still malfunctions after the above adjustment, replace the Take-up Reel with a new one.

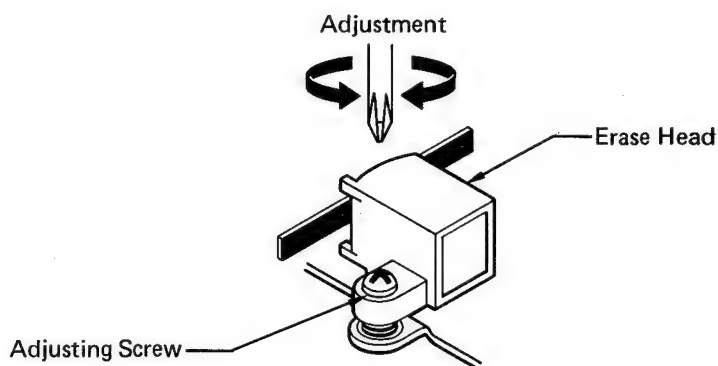
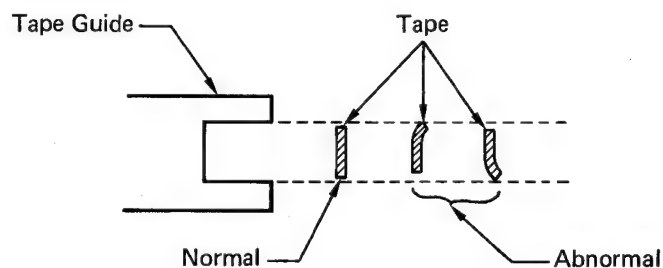
Tape Running Condition Adjustment

Whenever the Erase Head has been removed or replaced, perform the tape running condition adjustment as follows:

1. Cut the cassette half (Example: TDK C-120) as illustrated and use it for the adjustment.

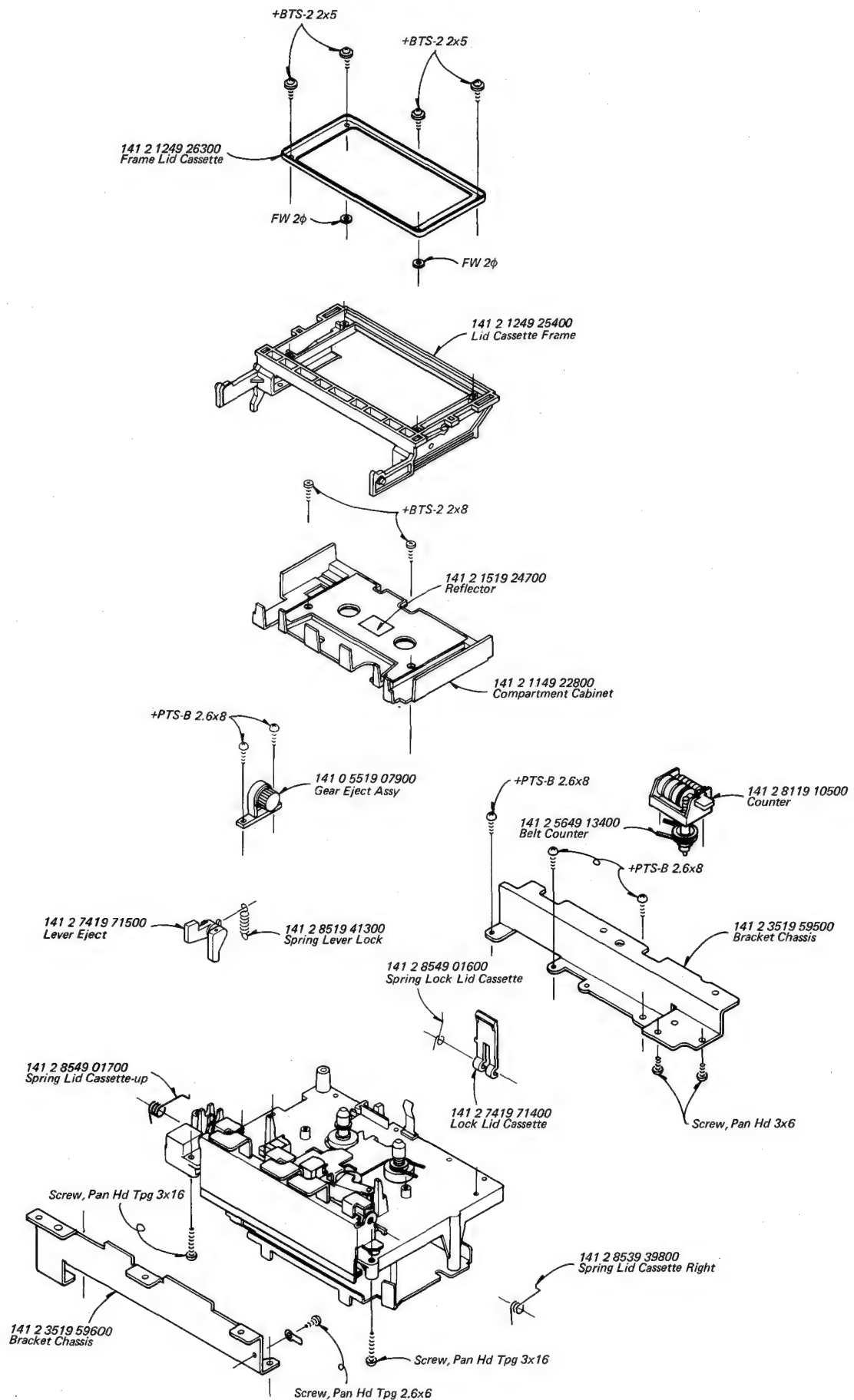


2. Insert the cassette half into the cassette compartment. Then, turn the adjusting screw while the tape is running, so that the tape does not curl along the Tape Guide of the Erase Head as illustrated.



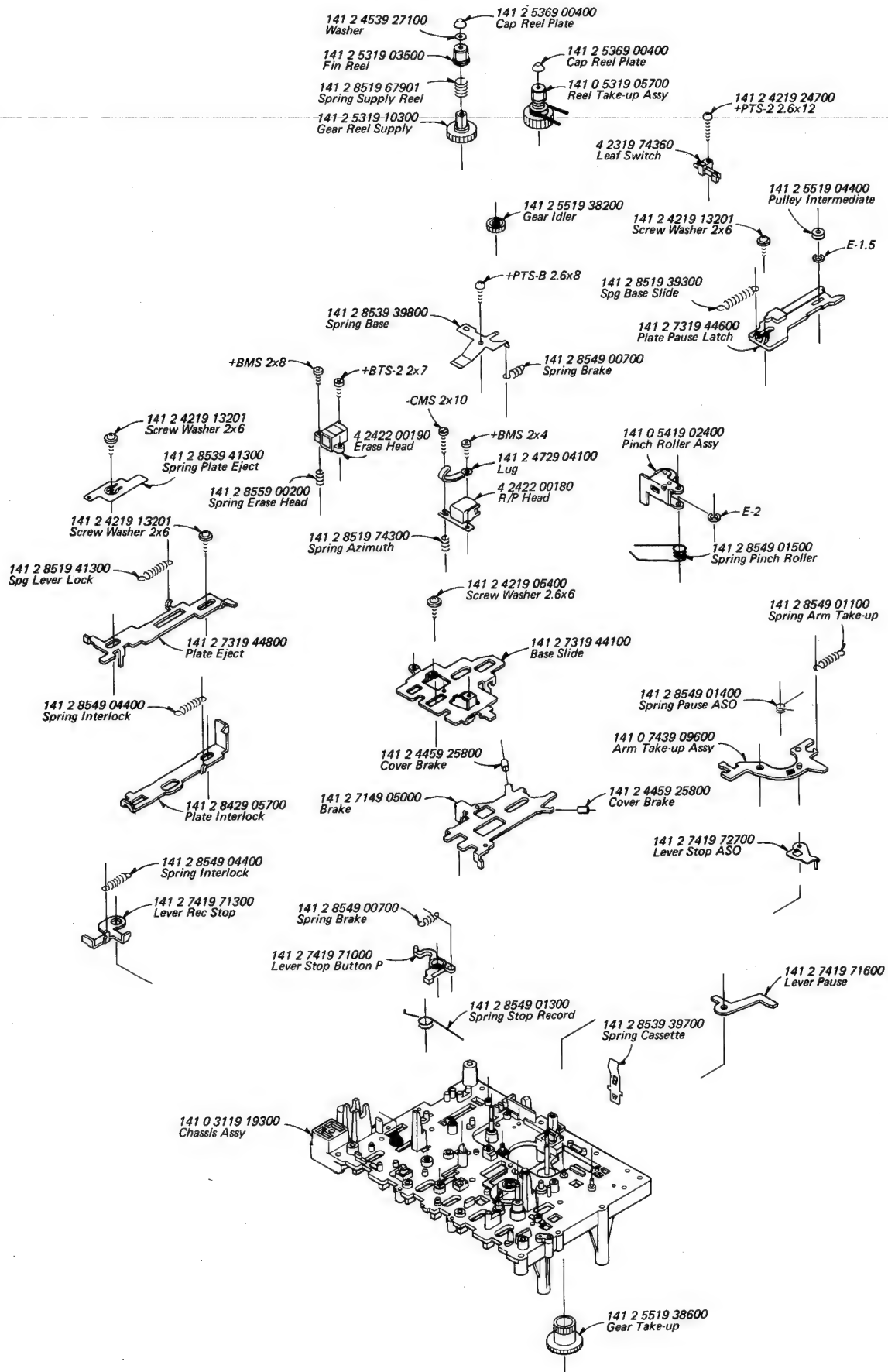
3. If necessary, adjust the screw until the tape is exactly centered in the Tape Guide of the Erase Head.
4. After the adjustment, secure the adjusting screw with paint or glue.

CASSETTE DECK EXPLODED VIEW (TOP VIEW 2-1)



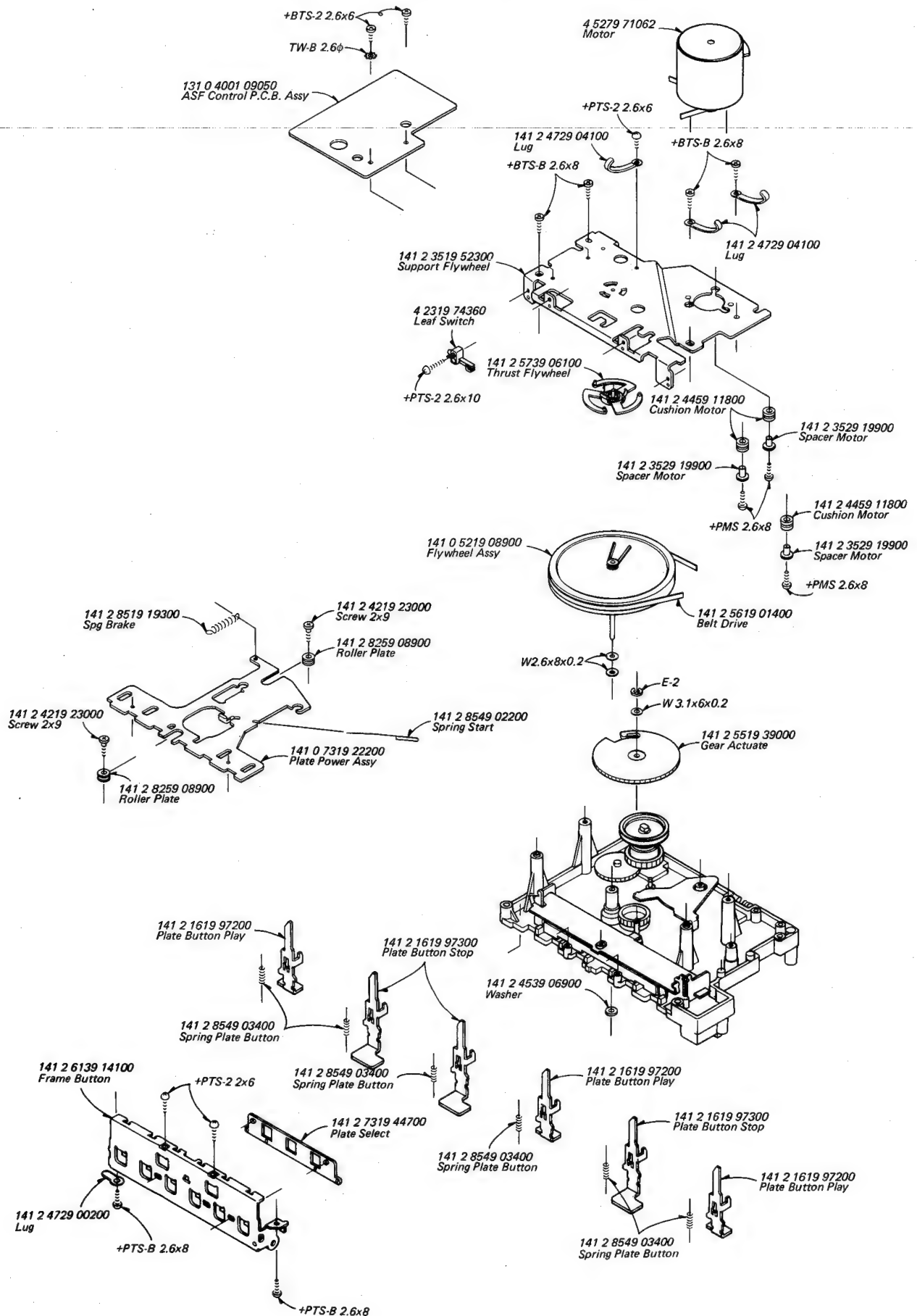
CASSETTE DECK EXPLODED VIEW (Continued)

(TOP VIEW 2-2)



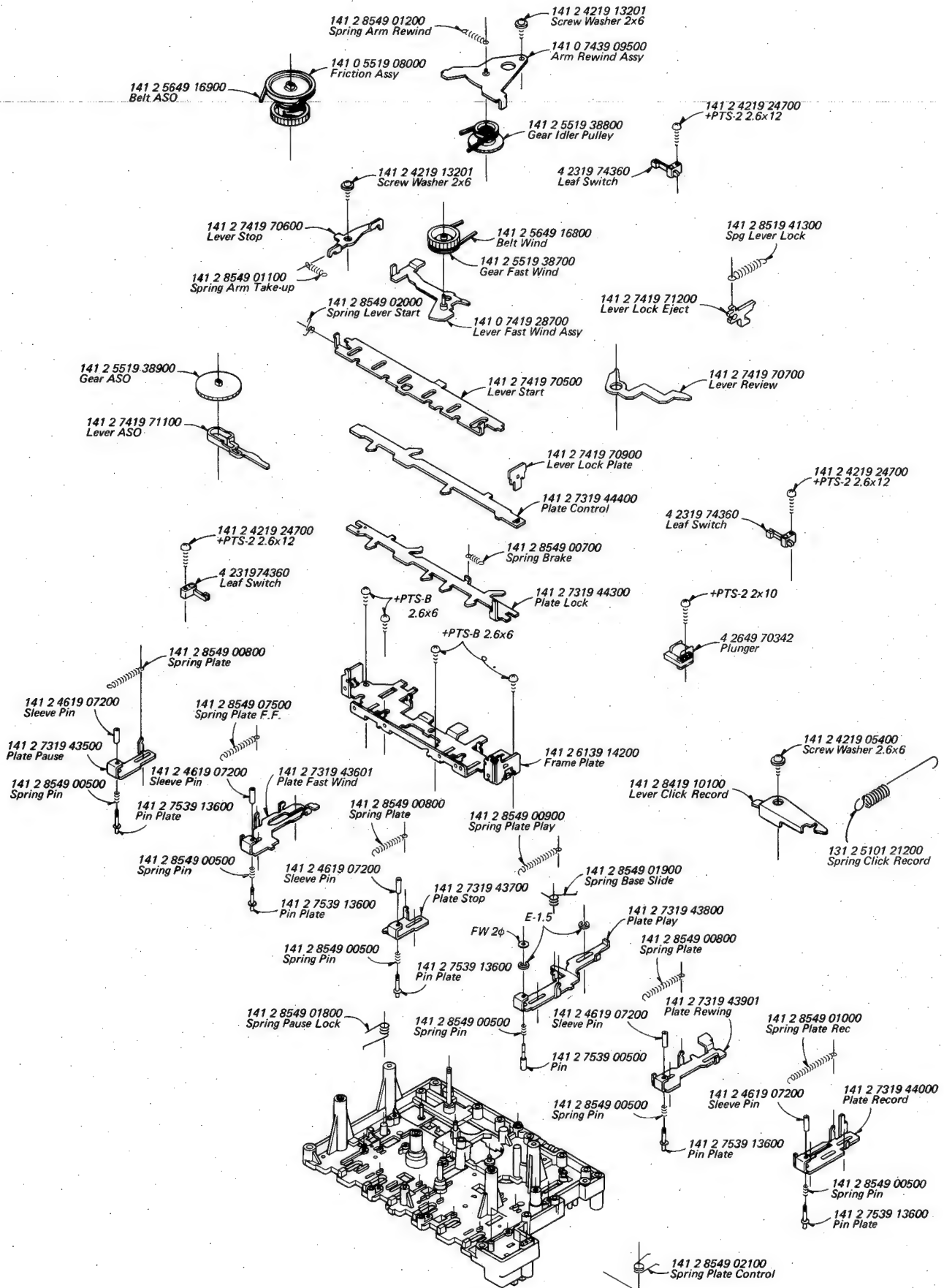
CASSETTE DECK EXPLODED VIEW (Continued)

(BOTTOM VIEW 2-1)

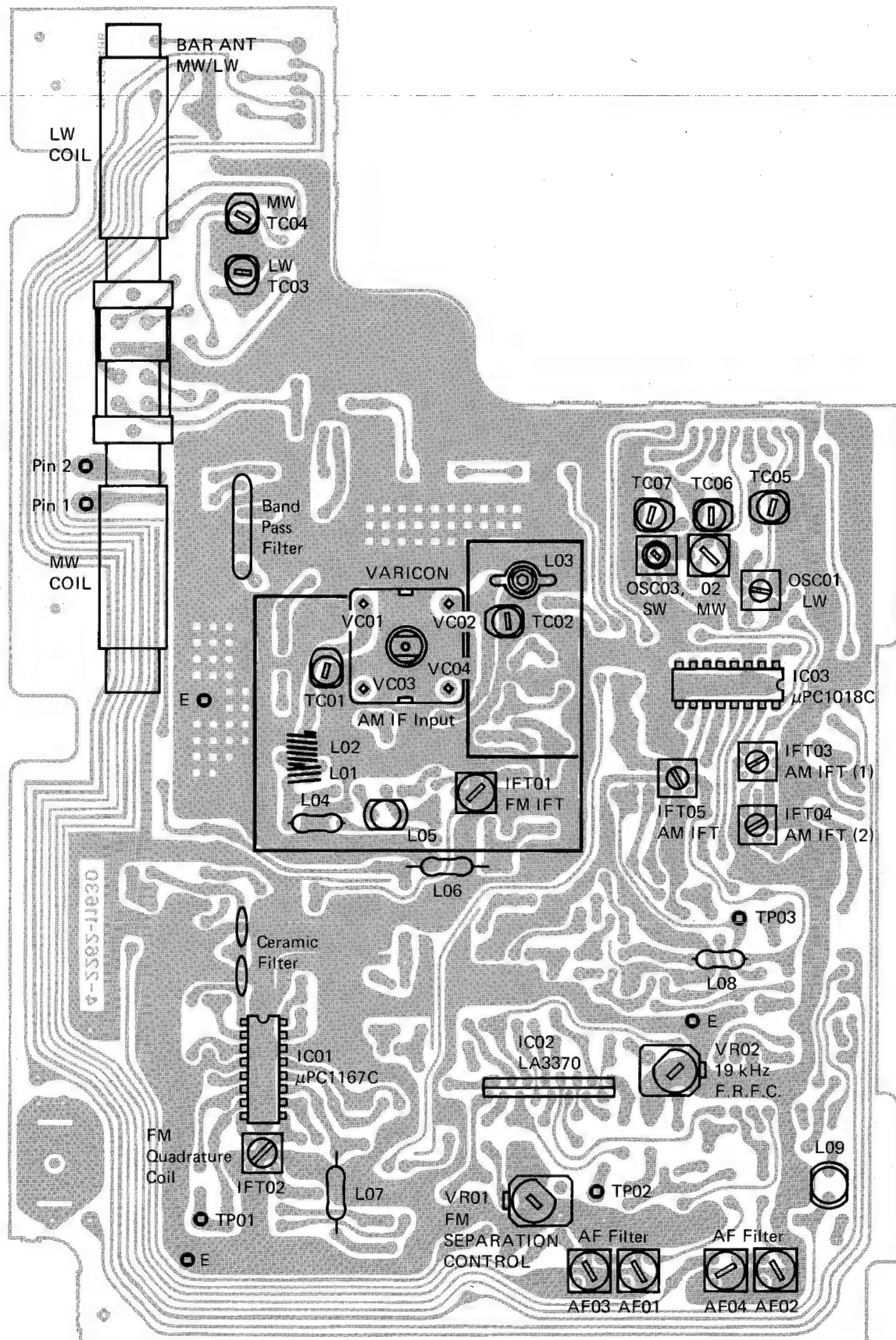


CASSETTE DECK EXPLODED VIEW (Continued)

(BOTTOM VIEW 2-2)



PRINTED CIRCUIT BOARD ALIGNMENT POINTS (TUNER SECTION)



RECOMMENDED TEST EQUIPMENTS

The following test equipment is recommended to completely test and align the tuner

- | | |
|--|---|
| <ul style="list-style-type: none"> • Line Voltage Isolation Transformer • Accurately Calibrated AC Voltmeter • Standard Signal Generator for AM • Standard Signal Generator for FM • IF Generator Scope • Stereo Signal Generator • Multiplex Generator | <ul style="list-style-type: none"> • Loop Antenna for AM • Dummy Antenna (300 ohm, Balanced Type) for FM • Dummy Antenna (10 P and 30 ohm) for SW • Frequency Counter • Distortion Meter • Oscilloscope |
|--|---|

CONTROL SETTINGS:

Volume Control	Maximum (AM-IF and RF, FM-RF); Minimum (FM-IF)
Treble Control	Center
Bass Control	Center
Balance Control	Center
Tape Monitor Switch	Source
Super Bass Switch	Off

AM TUNER ALIGNMENT

MW ALIGNMENT

Standard test frequency 400 Hz and Modulation 30% at AM

ITEM	GENERATOR	DIAL SETTING	INDICATOR	PROCEDURE
1. IF ALIGNMENT	Connect 455 kHz IF gene-scope output to VC03 and ground terminal. Use 0.1 μ F capacitor in series with generator lead.	Position of non-interference Minimum Frequency	Connect IF gene-scope input to TP03, and ground terminal.	Adjust IFT03 (White), IFT04 (Yellow), and IFT05 (Black) for maximum gain and best symmetry. Keep signal low enough for noise on response.
2. MW (RF) TRACKING ALIGNMENT (600 kHz)	Connect standard loop antenna to output terminal of gene-scope. Place bar antenna 60 cm away from loop antenna. Generator setting to 600 kHz	Center of 600 kHz calibration mark on dial	Connect AC VTVM and Oscilloscope to REC OUT jack.	Adjust MW OSC02 and AM Antenna (MW) for maximum gain output.
3. (1400 kHz)	Change generator setting to 1400 kHz.	Center of 1400 kHz calibration mark on dial	Same as above	Adjust TC06 (OSC) and TC04 (ANT.) for maximum deflection. Repeat steps (2) and (3) until optimum alignment is reached.

AM TUNER ALIGNMENT (Continued)

LW ALIGNMENT

ITEM	GENERATOR	DIAL SETTING	INDICATOR	PROCEDURE
1. LW (RF) TRACKING ALIGNMENT (150 kHz)	Connect standard loop antenna to output terminal of generator. Place bar antenna 60 cm away from loop antenna. Generator setting to 150 kHz	Center of 150 kHz calibration mark on dial	Connect AC VTVM and Oscilloscope to REC OUT jack.	Adjust LW OSC01 and LW Antenna Coil for maximum gain output.
2. (350 kHz)	Change generator setting to 350 kHz.	Center of 350 kHz calibration mark on dial	Same as above	Adjust TC05 (OSC) and TC03 (ANT.) for maximum deflection. Repeat steps (1) and (2) until optimum alignment is reached.

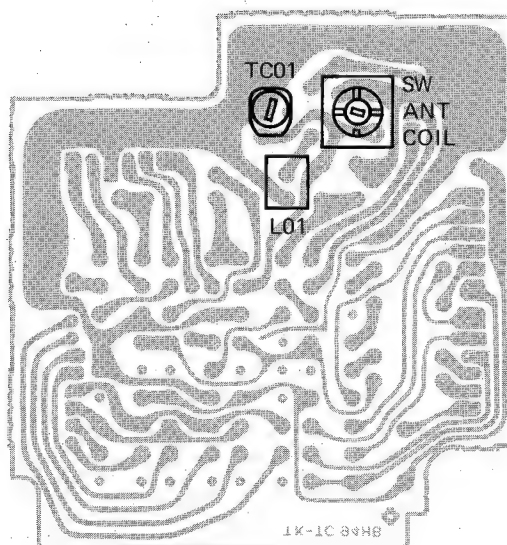
SW ALIGNMENT

DUMMY ANTENNA 30 ohm/10 p

ITEM	GENERATOR	DIAL SETTING	INDICATOR	PROCEDURE
1. SW (RF) TRACKING ALIGNMENT (6 MHz)	Connect AM RF generator through SW Dummy Ant. to Ant. terminals (Pin 1 and 2). Set generator to 6 MHz.	Center of 6 MHz calibration mark on dial	Connect AC VTVM and Oscilloscope to REC OUT jack.	Adjust SW OSC03 and SW Antenna Coil in the Band SW P.C.Board for maximum gain output.
2. (17 MHz)	Change generator setting to 17 MHz.	Center of 17 MHz calibration mark on dial	Same as above	Adjust TC07 (OSC) and TC01 (ANT.) in the Band SW P.C.Board for maximum deflection. Repeat steps (1) and (2) until optimum alignment is reached.

* Use a screwdriver with plastic grip for all adjustments.

BAND SW. P.C.BOARD ALIGNMENT POINT (TOP VIEW)



FM TUNER ALIGNMENT

Standard test frequency 1 kHz and deviation ± 75 kHz

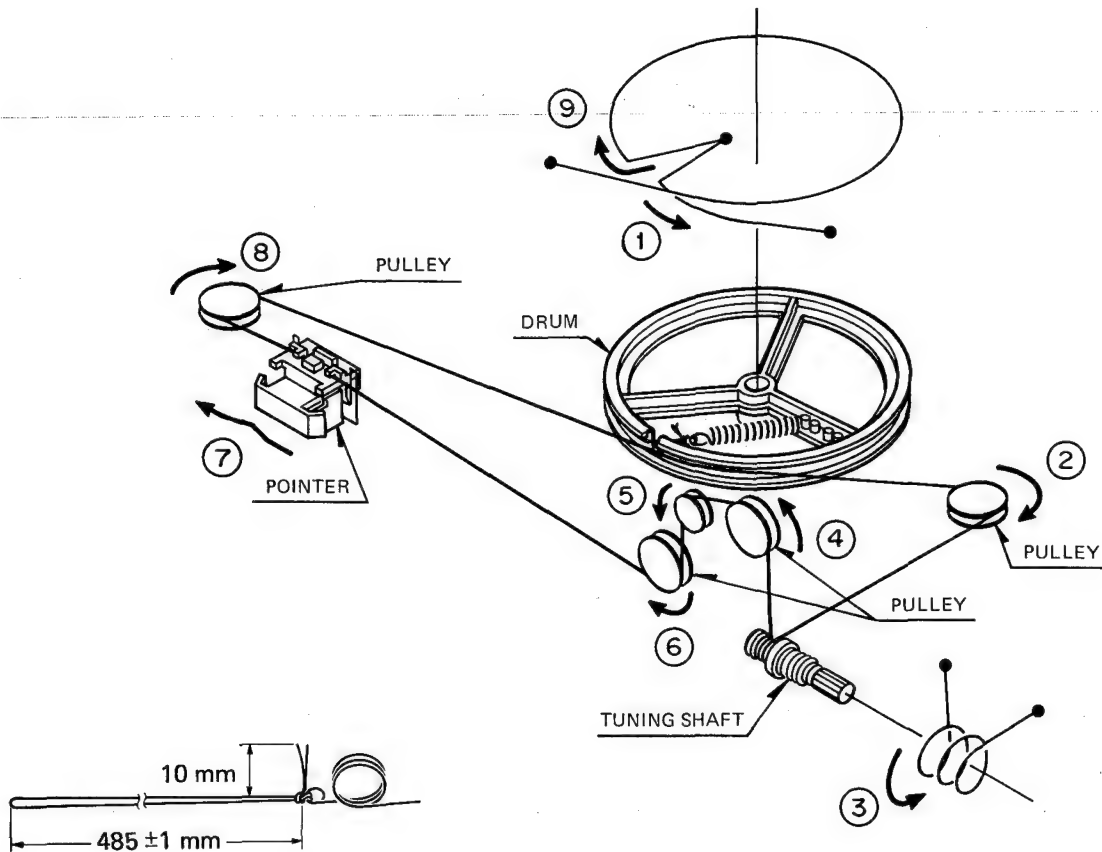
ITEM	GENERATOR	DIAL SETTING	INDICATOR	PROCEDURE
<p>Note: The FM IF circuit utilizes a non-turnable ceramic filter which establishes the IF bandpass. To insure symmetrical turning and selectivity, the IF must be aligned precisely to the center of the filter bandpass, rather than to 10.7 MHz as in conventional LC circuits.</p>				
1. IF ALIGNMENT	Connect 10.7 MHz IF gene-scope output to VC01 and ground terminal.	Position of non-interference Minimum frequency	Connect IF gene-scope input to TP01.	Adjust IFT01 and IFT02 for maximum gain and best symmetry.
2. FRONT END ALIGNMENT		Tuning knob fully counter-clockwise		Place center of dial pointer on "0" (zero) and secure pointer with bonding material.
3. FRONT END ALIGNMENT (88 MHz)	Connect FM RF generator through FM Dummy Ant. to FM ANT. terminals (Pin 1 and Pin-2). Set generator to 88 MHz. Modulate with 1 kHz to provide ± 40 kHz deviation. Set generator output with attenuator as low as possible.	Center of 88 MHz calibration mark on dial	Connect AC VTVM, Distortion Meter, and Oscilloscope to REC OUT jack.	Adjust FM OSC Coil (L03) and FM RF Coil (L02) for best waveform and minimum distortion.
4. (108 MHz)	Change generator setting to 108 MHz.	Center of 108 MHz calibration mark on dial	Same as above	Adjust TC02 (OSC) and TC01 (RF) for best waveform and deflection.
<p>Note: Repeat Items 3 and 4, and confirm that Tracking Error is minimized and best sensitivity is obtained at each frequency point. Then, set generator to 98 MHz and confirm that the pointer is correctly set on the dial plate.</p>				
5. PILOT FREQUENCY ADJUSTMENT		Position of non-interference	Connect Frequency Counter to TP02 and ground terminal.	Adjust VR02 until Frequency Counter indicates 19 kHz ± 50 Hz.
6. FM STEREO SIGNAL SEPARATION CONTROL ADJUSTMENT	Connect FM Stereo SG to Ant. terminals (Pin 1 and Pin 2). 19 kHz signal ON. Main channel, sub channel signal ON. Apply 1000 Hz signal from LEFT Channel.	Same as above	Connect AC VTVM, Distortion Meter and Oscilloscope to RIGHT Channel REC OUT jack.	Adjust VR01 for minimum output. Note: Do not turn Low Pass Filter as already adjusted.
	Same as above RIGHT Channel		Same as above LEFT Channel	

* Use a screwdriver with plastic grip for all adjustments.

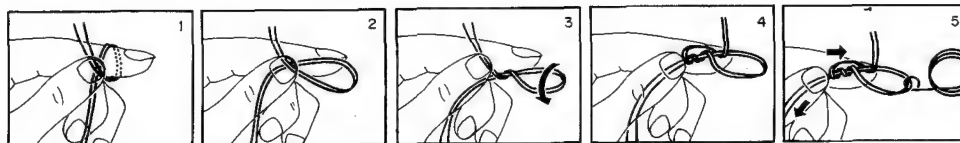
CAUTION:

This precision high-fidelity instrument should be serviced only by qualified personnel, trained in the repair of transistor equipment and printed circuitry.

DIAL CORD STRINGING



CORD KNOTTING



NOTE: Check to see that the dial cord is correctly strung by turning the dial.

PARTS LIST

RF, IF, MPX P.C.B. Assy
131 0 4001 10280

Ref. No.	Parts Number	Description
CF01,02	4 2242 00210	Variable Condenser
	4 2279 20340	Ceramic Filter (FM IF)
	4 2362 00370	Plug 6P
	4 2362 00660	Pin 1P
	4 2372 00900	Earth Terminal
AF01,02	4 2532 00300	Band Pass Filter
	4 2579 25380	Bar Antenna AM
	4 2522 00080	AF Filter (White)
	4 2522 00070	AF Filter (Black)
	4 2562 00370	FM IFT
IFT01	4 4562 00380	FM IFT (Q Coil)
IFT02	4 2562 00390	AM IFT (1)
IFT03	4 2562 00400	AM IFT (2)
IFT04	4 2562 00410	AM IFT
IFT05	4 2592 00140	RF Loading Coil
L01	4 2592 00150	RF Coil
L02	4 2582 00550	FM OSC Coil
L03	4 2532 00310	Choke Coil (220 μ H)
L04	4 2532 00320	Choke Coil (1.2 μ H)
L05	4 2532 00310	Choke Coil (220 μ H)
L06,07	4 2532 00040	Choke Coil (1 mH)
L08	4 2532 00340	Choke Coil (39 mH)
L09	4 2582 00560	LW OSC Coil
OSC01	4 2582 00420	MW OSC Coil
OSC02	4 2582 00540	SW OSC Coil
OSC03	4 2242 00200	Trimmer 10 pF
TC01,02	4 2242 00280	Trimmer 20 pF
TC03	4 2242 00200	Trimmer 10 pF
TC04	4 2242 00280	Trimmer 20 pF
TC05	4 2242 00200	Trimmer 10 pF
TC06,07	4 2242 00200	Trimmer 10 pF
VR01	4 2222 01040	VR 20k-B
VR02	4 2222 01400	VR 10k-B

CAPACITORS

C01	C1HCZJ101SPA	Ceramic	100 pF	50V	±5%
C02	C1HCZM1R8SPA	Ceramic	1.8 pF	50V	±20%
C03	C1HCZK102BPA	Ceramic	1000 pF	50V	±10%
C04	C1HCDJ200CH	Ceramic	20 pF	50V	±5%
C05	C1HCZK4R7SPA	Ceramic	4.7 pF	50V	±10%
C06	C1HCZK331BPA	Ceramic	330 pF	50V	±10%
C07	C1HCZN472XPA	Ceramic	0.0047 μ F	50V	±30%
C08	C1CCZN223YPA	Ceramic	0.022 μ F	16V	±30%
C09	C1HCDJ120CH	Ceramic	12 pF	50V	±5%
C10	C1HCDJ150CH	Ceramic	15 pF	50V	±5%
C11	C1HCDD100CH	Ceramic	10 pF	50V	±0.5%
C12	C1HCDD220PH	Ceramic	22 pF	50V	±10%
C13	C1HCDC030CH	Ceramic	3 pF	50V	±0.25%
C14,15	C1CCZN223YPA	Ceramic	0.022 μ F	16V	±30%
16					
C17	C1HCZM010SPA	Ceramic	1.0 pF	50V	±20%
C18	C1HCZM222XPA	Ceramic	2200 pF	50V	±20%
C19,20	C1CCZN223YPA	Ceramic	0.022 μ F	16V	±30%
21					
C22	C1HRY-105APA	Electrolytic	1 μ F	50V	
C23	C1HCZK331BPA	Ceramic	330 pF	50V	±10%
C24	C1HRY-335APA	Electrolytic	3.3 μ F	50V	
C25	C1CCZN223YPA	Ceramic	0.022 μ F	16V	±30%
C26	C1HRY-335APA	Electrolytic	3.3 μ F	50V	

Ref. No.	Parts Number	Description
CAPACITORS		
C27,28	C1CCZN223YPA	Ceramic 0.022 μ F 16V ±30%
29,30		
31,32		
C33	C1CRE-107A	Electrolytic 100 μ F 16V
C34	C1ERY-475APA	Electrolytic 4.7 μ F 25V
C35	C1HRE-105A	Electrolytic 1 μ F 50V
C36	C1CRE-227A	Electrolytic 220 μ F 16V
C37	C1ERE-475AL	Electrolytic 4.7 μ F 25V
C38	C1ERY-106APA	Electrolytic 10 μ F 25V
C39	C1HCZN472XPA	Ceramic 0.0047 μ F 50V ±30%
C40	C1CCZN223YPA	Ceramic 0.022 μ F 16V ±30%
C41	C1ERY-475APA	Electrolytic 4.7 μ F 25V
C42	C1HRY-335APA	Electrolytic 3.3 μ F 50V
C43	C1HRE-105A	Electrolytic 1 μ F 50V
C44	C1HSEJ102A	Styrol 1000 pF 50V ±5%
C45,46	C1HFRK153A	Mylar 0.015 μ F 50V ±10%
C47,48	C1ERE-475A	Electrolytic 4.7 μ F 25V
C49,50	C1HRE-105A	Electrolytic 1 μ F 50V
C51,52	C1HFRK332A	Mylar 0.0033 μ F 50V ±10%
C53,54	C1CRY-476APA	Electrolytic 47 μ F 16V
C55	C1ARE-107A	Electrolytic 100 μ F 10V
C56	C1CRE-227A	Electrolytic 220 μ F 16V
C57	C1CCZN223YPA	Ceramic 0.022 μ F 16V ±30%
C61	C1HCYK330APA	Ceramic 33 pF 50V ±10%
C62	C1HCYC050APA	Ceramic 5 pF 50V ±0.25%
C63	C1CCZN223YPA	Ceramic 0.022 μ F 16V ±30%
C64	C1HSEJ121A	Styrol 120 pF 50V ±5%
C65	C1HSEJ361A	Styrol 360 pF 50V ±5%
C66	C1HSEJ382A	Styrol 3800 pF 50V ±5%
C67	C1HCDDK470CH	Ceramic 47 pF 50V ±10%
C68	C1HCDD100CH	Ceramic 10 pF 50V ±0.5%
C69	C1HCDC050CH	Ceramic 5 pF 50V ±0.25%
C70,71	C1CCZN223YPA	Ceramic 0.022 μ F 16V ±30%
C72	C1HYYZ223APA	Ceramic 0.022 μ F 50V +80,-20%
C73	C1ECZM103XPA	Ceramic 10000 pF 25V ±20%
C74	C1HCZM222XPA	Ceramic 2200 pF 50V ±20%
C75	C1HYYZ223APA	Ceramic 0.022 μ F 50V +80,-20%
C76	C1CRE-476A	Electrolytic 47 μ F 16V
C77,78	C1HYDZ103A	Ceramic 0.01 μ F 50V +80,-20%
C79	C1ARE-226A	Electrolytic 22 μ F 10V
C80	C1CRE-106A	Electrolytic 10 μ F 16V
C81	C1HFRK223A	Mylar 0.022 μ F 50V ±10%
C82	C1HRY-474APA	Electrolytic 0.47 μ F 50V
C83	C1HFKYK273APA	Mylar 0.027 μ F 50V ±10%
C84	C1ARE-227A	Electrolytic 220 μ F 10V
C85	C1HCZN152XPA	Ceramic 0.0015 μ F 50V ±30%
C86	C1HYDZ103A	Ceramic 0.01 μ F 50V +80,-20%
C87	C1CCZN223YPA	Ceramic 0.022 μ F 16V ±30%
C88	C1HRE-105A	Electrolytic 1 μ F 50V
C89	C1CCZN223YPA	Ceramic 0.022 μ F 16V ±30%
C90	C1CRE-336A	Electrolytic 33 μ F 16V
C91	C1HYYZ223APA	Ceramic 0.022 μ F 50V +80,-20%
C92	C1HYDZ473A	Ceramic 0.047 μ F 50V +80,-20%
C93	C1HYYZ223APA	Ceramic 0.022 μ F 50V +80,-20%
C94	C1HCYK220APA	Ceramic 22 pF 50V ±10%

PARTS LIST (Continued)

Ref. No. Parts Number Description

SEMICONDUCTORS

D01	DXX-ITT410	Diode, ITT410
D02,03	202 5 9110 18820	Diode, 1S188
D04,05	205 5 9040 44210	Diode, DS-442
IC01	INN-MPC1167C2	IC, μ PC1167C2
IC02	206 5 0603 37010	IC, LA3370
IC03	INN-MPC1018C	IC, μ PC1018C
Q01	TNN-2SK195-E2	FET 2SK195 E2, F, P
Q02	TNN-2SC1674-K	TR 2SC1674 K, L
Q03,04	TNN-2SC1675-K	TR 2SC1675 K, L
Q05	203 5 5000 53660	TR 2SC536 F, G
Q06,07	203 5 5251 57170	TR 2SC1571 G
Q08	203 5 5000 53670	TR 2SC536 G
Q09	TNN-2SC1675-K	TR 2SC1675 K
Q10,11	203 5 5000 53650	TR 2SC536 F
Q12	203 5 5000 53660	TR 2SC536 F, G

RESISTORS

R01	R2EDZJ184APA	Carbon	180k	1/4W	±5%
R02	R2EDZJ101APA	Carbon	100	1/4W	±5%
R03	R2EDZJ105APA	Carbon	1M	1/4W	±5%
R04	R2EDZJ562APA	Carbon	5.6k	1/4W	±5%
R05	R2EDZJ331APA	Carbon	330	1/4W	±5%
R06	R2EDZJ684APA	Carbon	680k	1/4W	±5%
R07	R2EDZJ562APA	Carbon	5.6k	1/4W	±5%
R08	R2EDZJ822APA	Carbon	8.2k	1/4W	±5%
R09,10	R2EDZJ124APA	Carbon	120k	1/4W	±5%
R11	R2EDZJ331APA	Carbon	330	1/4W	±5%
R12	R2EDZJ684APA	Carbon	680k	1/4W	±5%
R13	R2EDZJ331APA	Carbon	330	1/4W	±5%
R14	R2EDZJ101APA	Carbon	100	1/4W	±5%
R15	R2EDZJ561APA	Carbon	560	1/4W	±5%
R16,17	R2EDZJ331APA	Carbon	330	1/4W	±5%
R18	R2EDZJ683APA	Carbon	68k	1/4W	±5%
R19	R2EDZJ562APA	Carbon	5.6k	1/4W	±5%
R20	R2EDZJ563APA	Carbon	56k	1/4W	±5%
R21	R2EDZJ333APA	Carbon	33k	1/4W	±5%
R22	R2EDZJ103APA	Carbon	10k	1/4W	±5%
R23	R2EDZJ473APA	Carbon	47k	1/4W	±5%
R24	R2EDZJ222APA	Carbon	2.2k	1/4W	±5%
R25	R2EDZJ103APA	Carbon	10k	1/4W	±5%
R26	R2EDZJ471APA	Carbon	470	1/4W	±5%
R27	R2EDZJ392APA	Carbon	3.9k	1/4W	±5%
R28	R2EDPJ330A	Carbon	33	1/4W	±5%
R29	R2EDZJ123APA	Carbon	12k	1/4W	±5%
R30	R2EDZJ333APA	Carbon	33k	1/4W	±5%
R31	R2EDZJ102APA	Carbon	1k	1/4W	±5%
R32	R2EDZJ124APA	Carbon	120k	1/4W	±5%
R33	R2EDZJ102APA	Carbon	1k	1/4W	±5%
R34	R2EDZJ123APA	Carbon	12k	1/4W	±5%
R35,36	R2EDZJ392APA	Carbon	3.9k	1/4W	±5%
R37,38	R2EDZJ394APA	Carbon	390k	1/4W	±5%
R39,40	R2EDZJ332APA	Carbon	3.3k	1/4W	±5%
R41,42	R2EDZJ122APA	Carbon	1.2k	1/4W	±5%
R43,44	R2EDZJ332APA	Carbon	3.3k	1/4W	±5%
R45	R2EDZJ271APA	Carbon	270	1/4W	±5%
R46	R2EDPJ100A	Carbon	10	1/4W	±5%
R47,48	R2EDPJ4R7A	Carbon	4.7	1/4W	±5%
R51	R2EDZJ5R6APA	Carbon	5.6	1/4W	±5%

Ref. No. Parts Number Description

RESISTORS

R52	R2EDZJ330APA	Carbon	33	1/4W	±5%
R53	R2CDZJ681APB	Carbon	680	1/6W	±5%
R54	R2CDZJ5R6APB	Carbon	5.6	1/6W	±5%
R55	R2EDZJ123APA	Carbon	12k	1/4W	±5%
R56	R2EDUJ101A	Carbon	100	1/4W	±5%
R57	R2EDZJ222APA	Carbon	2.2k	1/4W	±5%
R58	R2CDUJ103APB	Carbon	10k	1/6W	±5%
R59	R2CDUJ222APB	Carbon	2.2k	1/6W	±5%
R60	R2CDZJ473APB	Carbon	47k	1/6W	±5%
R61	R2EDZJ472APA	Carbon	4.7k	1/4W	±5%
R62	R2CDZJ394APB	Carbon	390k	1/6W	±5%
R63	R2CDZJ331APB	Carbon	330	1/6W	±5%
R64	R2CDZJ681APB	Carbon	680	1/6W	±5%
R65	R2EDZJ104APA	Carbon	100k	1/4W	±5%
R66	R2EDZJ100APA	Carbon	10	1/4W	±5%
R67	R2EDZJ151APA	Carbon	150	1/4W	±5%
R68	R2CDZJ274APB	Carbon	270k	1/6W	±5%
R69	R2CDZJ122APB	Carbon	1.2k	1/6W	±5%
R70	R2CDZJ391APB	Carbon	390	1/6W	±5%
R71	R2EDZJ562APA	Carbon	5.6k	1/4W	±5%
R72	R2EDZJ683APA	Carbon	68k	1/4W	±5%
R73	R2CDZJ102APB	Carbon	1k	1/6W	±5%
R74	R2CDZJ562APB	Carbon	5.6k	1/6W	±5%
R76	R2EDZJ471APA	Carbon	470	1/4W	±5%
R77	R2EDZJ103APA	Carbon	10k	1/4W	±5%
R78	R2CDZJ223APB	Carbon	22k	1/6W	±5%
R79	R2EDZJ122APA	Carbon	1.2k	1/4W	±5%
R80	R2CDZJ681APB	Carbon	680	1/6W	±5%

BAND SWITCH P.C.B. Assy

131 0 4001 10290

Ref. No. Parts Number Description

	4 2312 03210	Switch Push 4Key
	4 2362 00370	Plug 6P
	4 2572 00160	SW Antenna Coil
L01	4 2532 00430	Choke Coil (22 μ H)
TC01	4 2242 00270	Trimmer 10 pF

CAPACITORS

C01	C1CCZN223YPA	Ceramic	0.022 μ F	16V	±30%
C02	C1HCYD100APA	Ceramic	10 pF	50V	±0.5%
C03	C1HCDK150SL	Ceramic	15 pF	50V	±10%
C04	C1HCYC050APA	Ceramic	5 pF	50V	±0.25%
C05	C1HYZZ223APA	Ceramic	0.022 μ F	50V	+80,-20%

RESISTOR

R01	R2EDZJ560APA	Carbon	56	1/4W	±5%
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STEREO IND. P.C.B. Assy

131 0 4001 10300

Ref. No. Parts Number Description

SEMICONDUCTOR

D01	DYY-SLR-54UR	L.E.D., SLR-54UR (Red)
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PARTS LIST (Continued)

POINTER/TUNE P.C.B. Assy 131 0 4001 10310

Ref. No.	Parts Number	Description
SEMICONDUCTOR		
D01	DOO-SLP-532D	L.E.D., SLP-532D

MAIN AMP. P.C.B. Assy 131 0 4001 08902

Ref. No.	Parts Number	Description
	4 2362 00080	Plug 3P
	4 2362 00400	Plug 7P
	4 2362 00500	Plug 9P
141	2 3689 07900	Radiator Power IC
141	2 3689 08000	Radiator IC

CAPACITORS

C01,02	C1HRE-105A	Electrolytic	1 μ F	50V
C03,04	C1HCZK471BPA	Ceramic	470 pF	50V \pm 10%
C05,06	C1ARE-107A	Electrolytic	100 μ F	10V
C07,08	C1HRE-104AL	Electrolytic	0.1 μ F	50V
C09,10	C1HCDD070SL	Ceramic	7 pF	50V \pm 0.5%
C11,12	C1CRY-107APA	Electrolytic	100 μ F	16V
C13,14	C1HFRJ154ML	Mylar	0.15 μ F	50V \pm 5%
C15,16	C1ERY-106APA	Electrolytic	10 μ F	25V
C17,18	C1HYDZ223A	Ceramic	0.022 μ F	50V +80,-20%
C19,20	C1ERE-107A	Electrolytic	100 μ F	25V
C21	C1HCDD070SL	Ceramic	7 pF	50V \pm 0.5%
C22	C1HCDK150SL	Ceramic	15 pF	50V \pm 10%
C23,24	C1CRY-107APA	Electrolytic	100 μ F	16V
C25,26	C1HFRJ154ML	Mylar	0.15 μ F	50V \pm 5%
C27,28	C1CRE-107A	Electrolytic	100 μ F	16V
C29,30	C1CRE-108A	Electrolytic	1000 μ F	16V
31,32				
C33	C1ERY-106APA	Electrolytic	10 μ F	25V
C34	C1CRY-476APA	Electrolytic	47 μ F	16V
C35	C1ERE-107A	Electrolytic	100 μ F	25V
C36	C1CRY-107APA	Electrolytic	100 μ F	16V
C37	C1CRY-476APA	Electrolytic	47 μ F	16V
C38	C1ERE-107A	Electrolytic	100 μ F	25V
C39	C1ERY-106APA	Electrolytic	10 μ F	25V
C40	C1CRY-476APA	Electrolytic	47 μ F	16V
C41	C1ERE-107A	Electrolytic	100 μ F	25V

SEMICONDUCTORS

D01,02	205 5 9040 44210	Diode, DS-442
D03,04	202 5 3210 11020	Zener Diode, GZA11U
D05	202 5 3210 09120	Zener Diode, GZA9.1U
IC01,02	206 5 1364 12626	IC, LA4126T (Stereo)
Q01,02	203 5 4921 01270	TR 2SD1012G
Q07,08	203 5 7330 61250	TR 2SD612 E
09		

RESISTORS

R01,02	R2EDZJ472APA	Carbon	4.7k	1/4W	\pm 5%
R03,04	R2EDZJ102APA	Carbon	1k	1/4W	\pm 5%
R05,06	R2EDZJ224APA	Carbon	220k	1/4W	\pm 5%
R07,08	R2EDZJ103APA	Carbon	10k	1/4W	\pm 5%
R09,10	R2EDZJ100APA	Carbon	10	1/4W	\pm 5%

Ref. No.	Parts Number	Description
RESISTORS		
R11,12	R2EDZJ330APA	Carbon 33 1/4W \pm 5%
R21,22	R3AXBJ221A	Oxide Metal Film 220 1W \pm 5%
R23	R2HXP5R6A	Oxide Metal Film 5.6 1/2W \pm 10%
R24,25	R3AXPK5R6A	Oxide Metal Film 5.6 1W \pm 10%
26		
R27	R2EDPJ151APA	Carbon 150 1/4W \pm 5%
R28	R2EDZJ121APA	Carbon 120 1/4W \pm 5%
R29	R2EDPJ121A	Carbon 120 1/4W \pm 5%
R30	R2EDZJ121APA	Carbon 120 1/4W \pm 5%
R31	R2EDPJ181A	Carbon 180 1/4W \pm 5%
R32	R2EDZJ151APA	Carbon 150 1/4W \pm 5%

POWER SUPPLY P.C.B. Assy 131 0 4001 08912

Ref. No.	Parts Number	Description
	4 2349 21570	Fuse T 6.3 A
	4 2352 00200	Fuse Clip
	4 2362 00660	Pin 1P

CAPACITORS

C01,02	C1HYDZ473A	Ceramic 0.047 μ F 50V +80,-20%
03,04		
C05	4 2232 00670	Electrolytic 4700 μ F 25V \pm 20%

SEMICONDUCTORS

D01	202 5 2720 04015	Diode, DBA40C
D02	202 5 2350 15010	Diode, DS-150A

RESISTOR

R01	R3AXBJ1R0A	Oxide Metal Film 1.0 1W \pm 5%
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SPEAKER OUT RIGHT P.C.B. Assy 131 0 4001 08920

Ref. No.	Parts Number	Description
	4 2352 01190	Jack 3P

SPEAKER OUT LEFT P.C.B. Assy 131 0 4001 08930

Ref. No.	Parts Number	Description
	4 2352 01190	Jack 3P

PARTS LIST (Continued)

FUNCTION & CONTROL P.C.B. Assy 131 0 4001 10320

Ref. No. Parts Number Description

	4 2312 03220	Switch Push 4Key
	4 2312 03230	Switch Push 3Key
	4 2312 05380	Switch Push 4Key
	4 2362 00040	Plug 3P
	4 2362 00370	Plug 6P
CN01	131 0 4006 22201	Cord Assy
CN03	131 0 4006 22273	Cord Assy
CN04	131 0 4006 22268	Cord Assy
CN05	131 0 4006 22233	Cord Assy
CN06	131 0 4006 22270	Cord Assy
CN07	131 0 4006 22271	Cord Assy
L01	4 2532 00110	Choke Coil
L02	4 2582 00450	OSC Coil CST
VR01	4 2222 00300	VR 100k-B
VR02	4 2222 00300	VR 100k-B

CAPACITORS

C01,02	C1HRY-474LPA	Electrolytic	0.47 μ F	50V
C03,04	C1ERY-475APA	Electrolytic	4.7 μ F	25V
C05,06	C1HRY-105APA	Electrolytic	1 μ F	50V
C07	C1HRE-105A	Electrolytic	1 μ F	50V
C08	C1HRY-105APA	Electrolytic	1 μ F	50V
C09	C1CRE-107A	Electrolytic	100 μ F	16V
C10	C1CRY-106APA	Electrolytic	10 μ F	16V
C11,12	C1CRY-476APA	Electrolytic	47 μ F	16V
C13	C1ERE-475A	Electrolytic	4.7 μ F	25V
C14	C1ERY-475APA	Electrolytic	4.7 μ F	25V
C15,16	C1CRY-106APA	Electrolytic	10 μ F	16V
C17,18	C1HFRJ124ML	Mylar	0.12 μ F	50V \pm 5%
19,20				
C21,22	C1ERY-475APA	Electrolytic	4.7 μ F	25V
C23	C1ARY-227APA	Electrolytic	220 μ F	10V
C24	C1CRY-476APA	Electrolytic	47 μ F	16V
C25	C1ERY-475APA	Electrolytic	4.7 μ F	25V
C26	C1HYYZ103APA	Ceramic	0.01 μ F	50V +80,-20%
C27	C1CRE-336A	Electrolytic	33 μ F	16V
C28	C1CRY-106APA	Electrolytic	10 μ F	16V
C29	C1HYYZ103APA	Ceramic	0.01 μ F	50V +80,-20%
C30	C1CRE-476A	Electrolytic	47 μ F	16V
C31	C1HRY-105APA	Electrolytic	1 μ F	50V
C32	C1CRY-106APA	Electrolytic	10 μ F	16V
C33	C1HFRK472A	Mylar	0.0047 μ F	50V \pm 10%
C34	C1HFKY472APA	Mylar	0.0047 μ F	50V \pm 10%
C35	C1HFKY103APA	Mylar	0.01 μ F	50V \pm 10%
C36	C1HFRK333A	Mylar	0.033 μ F	50V \pm 10%
C37	C2BSEK472A	Styrol	4700 pF	125V \pm 10%
C38	C1HFKY123APA	Mylar	0.012 μ F	50V \pm 10%
C39	C1CRY-476APA	Electrolytic	47 μ F	16V
C40	C1HCDK221SL	Ceramic	220 pF	50V \pm 10%
C41	C1HCYK221APA	Ceramic	220 pF	50V \pm 10%

SEMICONDUCTORS

D01	202 5 3210 09120	Zener Diode, GZA9.1U
D02,03	205 5 9040 44210	Diode, DS-442
04,05		
06,07		
08		
IC01	IPP-MSM4053RS	IC, MSM4053RS
IC02,03	IYY-BA223	IC, BA223

Ref. No. Parts Number Description

SEMICONDUCTORS

Q01,02	203 5 5251 57160	TR 2SC1571 F
Q03	203 5 6850 40050	TR 2SD400 E, F
Q04,05	203 5 5251 57170	TR 2SC1571 G
Q06,07	203 5 5000 53660	TR 2SC536 F, G
08,09		
Q10	203 5 5251 57060	TR 2SC1570 F, G
Q11,12	203 5 5000 53660	TR 2SC536 F, G
13,14		

RESISTORS

R01,02	R2CDZJ102APB	Carbon	1k	1/6W	\pm 5%
R03,04	R2CDZJ224APB	Carbon	220k	1/6W	\pm 5%
05,06					
R07,08	R2CDZJ334APB	Carbon	330k	1/6W	\pm 5%
R09,10	R2CDZJ472APB	Carbon	4.7k	1/6W	\pm 5%
R11,12	R2CDZJ104APB	Carbon	100k	1/6W	\pm 5%
13,14					
R15	R2EDZJ471APA	Carbon	470	1/4W	\pm 5%
R16,17	R2EDPJ390A	Carbon	39	1/4W	\pm 5%
R18,19	R2CDZJ183APB	Carbon	18k	1/6W	\pm 5%
R20,21	R2CDZJ822APB	Carbon	8.2k	1/6W	\pm 5%
R22	R2CDZJ332APB	Carbon	3.3k	1/6W	\pm 5%
R23	R2CDZJ103APB	Carbon	10k	1/6W	\pm 5%
R24,25	R2CDZJ104APB	Carbon	100k	1/6W	\pm 5%
26,27					
R28,29	R2CDZJ472APB	Carbon	4.7k	1/6W	\pm 5%
R30	R2CDZJ561APB	Carbon	560	1/6W	\pm 5%
R31,32	R2EDZJ152APA	Carbon	1.5k	1/4W	\pm 5%
R33,34	R2EDZJ473APA	Carbon	47k	1/4W	\pm 5%
R35,36	R2EDZJ394APA	Carbon	390k	1/4W	\pm 5%
R37,38	R2EDZJ474APA	Carbon	470k	1/4W	\pm 5%
R39,40	R2EDZJ392APA	Carbon	3.9k	1/4W	\pm 5%
R41,42	R2CDZJ473APB	Carbon	47k	1/6W	\pm 5%
R43	R2EDZJ122APA	Carbon	1.2k	1/4W	\pm 5%
R44,45	R2CDZJ562APB	Carbon	5.6k	1/6W	\pm 5%
R46	R2EDZJ101APA	Carbon	100	1/4W	\pm 5%
R47	R2EDZJ103APA	Carbon	10k	1/4W	\pm 5%
R48	R2EDPJ101A	Carbon	100	1/4W	\pm 5%
R49	R2CDZJ472APB	Carbon	4.7k	1/6W	\pm 5%
R50,51	R2EDZJ101APA	Carbon	100	1/4W	\pm 5%
R52	R2CDZJ333APB	Carbon	33k	1/6W	\pm 5%
R53	R2CDZJ101APB	Carbon	100	1/6W	\pm 5%
R54	R2CDZJ103APB	Carbon	10k	1/6W	\pm 5%
R55	R2EDZJ122APA	Carbon	1.2k	1/4W	\pm 5%
R56	R2EDZJ102APA	Carbon	1k	1/4W	\pm 5%
R57	R2CDZJ101APB	Carbon	100	1/6W	\pm 5%
R58	R2CDZJ223APB	Carbon	22k	1/6W	\pm 5%
R59	R2CDZJ103APB	Carbon	10k	1/6W	\pm 5%
R60	R2HXB151A	Oxide Metal Film	150	1/2W	\pm 5%
R61	R2HXB820A	Oxide Metal Film	82	1/2W	\pm 5%
R62,63	R2CDZJ183APB	Carbon	18k	1/6W	\pm 5%
R64	R2EDUJ5R6A	Carbon	5.6	1/4W	\pm 5%
R65,66	R2CDZJ103APB	Carbon	10k	1/6W	\pm 5%
R67	R2EDZJ103APA	Carbon	10k	1/4W	\pm 5%
R68,69	R2CDZJ103APB	Carbon	10k	1/6W	\pm 5%
R70	R2CDZJ473APB	Carbon	47k	1/6W	\pm 5%
R71,72	R2CDZJ103APB	Carbon	10k	1/6W	\pm 5%

PARTS LIST (Continued)

BALANCE/REC P.C.B. Assy 131 0 4001 10330

Ref. No.	Parts Number	Description
	4 2222 02320	VR 200k-Wx1
	4 2222 02350	VR 20k-Bx1
	4 2362 00040	Plug 3P

CAPACITORS

C01,02	C1HCYK471APA	Ceramic	470 pF	50V	±10%
C03,04	C1HFKY563APA	Mylar	0.056 μ F	50V	±10%
C05,06	C1HFKY473APA	Mylar	0.047 μ F	50V	±10%
C07,08	C1ERY-475APA	Electrolytic	4.7 μ F	25V	
C09	C1ARY-227APA	Electrolytic	220 μ F	10V	

SEMICONDUCTORS

C01,02	203 5 5251 57170	TR 2SC1571 G
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RESISTORS

R01,02	R2EDZJ472APA	Carbon	4.7k	1/4W	±5%
R03,04	R2EDZJ822APA	Carbon	8.2k	1/4W	±5%
R05,06	R2CDZJ102APB	Carbon	1k	1/6W	±5%
R07,08	R2CDZJ474APB	Carbon	470k	1/6W	±5%
R09,10	R2CDZJ394APB	Carbon	390k	1/6W	±5%
R11,12	R2CDZJ392APB	Carbon	3.9k	1/6W	±5%
R13,14	R2CDZJ473APB	Carbon	47k	1/6W	±5%
R15,16	R2EDZJ103APA	Carbon	10k	1/4W	±5%
R17	R2EDZJ102APA	Carbon	1k	1/4W	±5%

VOLUME P.C.B. Assy 131 0 4001 10340

Ref. No.	Parts Number	Description
	4 2222 02360	VR 100k-Bx2
	131 2 3701 30100	Mount Electric Part

PHONO EQ & RCA TERMINAL P.C.B. Assy 131 0 4001 10350

Ref. No.	Parts Number	Description
	4 2352 01490	DIN Socket 5P
	4 2359 73601	2P Jack

CAPACITORS

C01,02	C1ERY-475LPA	Electrolytic	4.7 μ F	25V	
C03,04	C1HCYK820APA	Ceramic	82 pF	50V	±10%
C05,06	C1ARY-336APA	Electrolytic	33 μ F	10V	
C07,08	C1HFKY103APA	Mylar	0.01 μ F	50V	±10%
C09,10	C1HFKY393APA	Mylar	0.039 μ F	50V	±10%
C11,12	C1HRY-474APA	Electrolytic	0.47 μ F	50V	
C13,14	C1CRY-107APA	Electrolytic	100 μ F	16V	
C15,16	C1ERY-475APA	Electrolytic	4.7 μ F	25V	
17,18					

SEMICONDUCTORS

IC01	IYY-BA328	IC, BA328
Q01,02	203 5 5251 57170	TR 2SC1571 G

Ref. No.	Parts Number	Description
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RESISTORS

R01,02	R2CDZJ104APB	Carbon	100k	1/6W	±5%
R03,04	R2CDZJ102APB	Carbon	1k	1/6W	±5%
R05,06	R2CDZJ271APB	Carbon	270	1/6W	±5%
R07,08	R2CDZJ682APB	Carbon	6.8k	1/6W	±5%
R09,10	R2CDZJ104APB	Carbon	100k	1/6W	±5%
11,12					
R13,14	R2EDZJ333APA	Carbon	33k	1/4W	±5%
15,16					
R17	R2EDZJ561APA	Carbon	560	1/4W	±5%
R18	R2EDZJ221APA	Carbon	220	1/4W	±5%
R19,20	R2CDZJ102APB	Carbon	1k	1/6W	±5%
R21,22	R2CDZJ154APB	Carbon	150k	1/6W	±5%
R23,24	R2CDZJ393APB	Carbon	39k	1/6W	±5%
R25,26	R2CDZJ332APB	Carbon	3.3k	1/6W	±5%
R27,28	R2CDZJ122APB	Carbon	1.2k	1/6W	±5%
R29,30	R2CDZJ104APB	Carbon	100k	1/6W	±5%
R31,32	R2CDZJ224APB	Carbon	220k	1/6W	±5%
R33,34	R2CDZJ334APB	Carbon	330k	1/6W	±5%

CASSETTE R/P P.C.B. Assy 131 0 4001 10360

Ref. No.	Parts Number	Description
	4 2312 03240	Switch Slide 18
	4 2362 00080	Plug 3P
	4 2362 00370	Plug 6P
	4 2362 00410	Plug 8P
	4 2362 00440	Plug 3P
	4 2362 00660	Pin 1P
	4 2369 22800	Plug 6P
CN12	131 0 4006 22222	Cord Assy
L01,02	4 2552 00610	AF Coil (6.8 mH)
L03,04	4 2522 00150	AF Filter (DOLBY, 47 kHz)
L05,06	4 2522 00160	AF Filter (DOLBY, 38 kHz)
L07,08	4 2552 00200	Coil (8.2 mH)
L09,10	4 2552 00610	AF Coil (6.8 mH)
11,12		
L13,14	4 2552 00580	AF Coil (Bias Trap, 47 kHz)
VR01	4 2229 25100	VR 47k-B
VR02	4 2229 25100	VR 47k-B
VR03	4 2229 26230	VR 10k-Bx1
VR04	4 2229 26230	VR 10k-Bx1

CAPACITORS

C01,02	C1HCZK681BPA	Ceramic	680 pF	50V	±10%
C03,04	C1ERY-106LPA	Electrolytic	10 μ F	25V	
C05,06	C1HCYK820APA	Ceramic	82 pF	50V	±10%
C07,08	C1HCDK330SL	Ceramic	33 pF	50V	±10%
C09,10	C1CRE-106A	Electrolytic	10 μ F	16V	
C11,12	C1ARY-476APA	Electrolytic	47 μ F	10V	
C13,14	C1CRE-477A	Electrolytic	470 μ F	16V	
C15,16	C1HFRK822A	Mylar	0.0082 μ F	50V	±10%
C17,18	C1HCZJ100SPA	Ceramic	10 pF	50V	±5%
C19,20	C1HFKY153APA	Mylar	0.015 μ F	50V	±10%
C21,22	C1HFRK152A	Mylar	0.0015 μ F	50V	±10%
C23,24	C1HRY-474APA	Electrolytic	0.47 μ F	50V	
25,26					

PARTS LIST (Continued)

Ref. No.	Parts Number	Description	Ref. No.	Parts Number	Description
CAPACITORS			RESISTORS		
C27,28	C1CRE-227A	Electrolytic 220 μ F 16V	R01,02	R2EDZJ100APA	Carbon 10 1/4W \pm 5%
C29,30	C1ARE-227A	Electrolytic 220 μ F 10V	R03,04	R2EDZJ563APA	Carbon 56k 1/4W \pm 5%
C31,32	C1HFYK222APA	Mylar 0.0022 μ F 50V \pm 10%	R05,06	R2CDZJ102APB	Carbon 1k 1/6W \pm 5%
C33,34	C1HYYZ102APA	Ceramic 0.001 μ F 50V +80,-20%	R07,08	R2EDZJ184APA	Carbon 180k 1/4W \pm 5%
35,36			R09,10	R2EDZJ154APA	Carbon 150k 1/4W \pm 5%
C37,38	C1HFYK102APA	Mylar 0.001 μ F 50V \pm 10%	R11,12	R2EDZJ153APA	Carbon 15k 1/4W \pm 5%
C39,40	C1HSEJ472A	Styrol 4700 pF 50V \pm 5%	R13,14	R2EDZJ394APA	Carbon 390k 1/4W \pm 5%
C41,42	C1CRY-106APA	Electrolytic 10 μ F 16V	R15,16	R2EDZJ333APA	Carbon 33k 1/4W \pm 5%
C43	C1HFYK333APA	Mylar 0.033 μ F 50V \pm 10%	R17,18	R2EDZJ472APA	Carbon 4.7k 1/4W \pm 5%
C44	C1HFRK333A	Mylar 0.033 μ F 50V \pm 10%	R19,20	R2EDZJ681APA	Carbon 680 1/4W \pm 5%
C45,46	C1HRY-105APA	Electrolytic 1 μ F 50V	R21,22	R2EDZJ332APA	Carbon 3.3k 1/4W \pm 5%
C47,48	C1CRY-106APA	Electrolytic 10 μ F 16V	R23,24	R2EDZJ392APA	Carbon 3.9k 1/4W \pm 5%
C49,50	C1HFRK473A	Mylar 0.047 μ F 50V \pm 10%	R25,26	R2EDZJ224APA	Carbon 220k 1/4W \pm 5%
C51,52	C1EUEM104A	Sint. Alu. 0.1 μ F 25V \pm 20%	R27,28	R2EDZJ332APA	Carbon 3.3k 1/4W \pm 5%
C53,54	C1EUEM334A	Sint. Alu. 0.33 μ F 25V \pm 20%	R29,30	R2EDZJ470APA	Carbon 47 1/4W \pm 5%
C55	C1HRE-474A	Electrolytic 0.47 μ F 50V	R31	R2CDZJ103APB	Carbon 10k 1/6W \pm 5%
C57,58	C1ERY-475APA	Electrolytic 4.7 μ F 25V	R32	R2EDZJ103APA	Carbon 10k 1/4W \pm 5%
C59	C1CRE-227A	Electrolytic 220 μ F 16V	R33,34	R2EDPJ560A	Carbon 56 1/4W \pm 5%
C60	C1ARE-226A	Electrolytic 22 μ F 10V	R35,36	R2EDZJ332APA	Carbon 3.3k 1/4W \pm 5%
C61,62	C1ERY-475APA	Electrolytic 4.7 μ F 25V	R37,38	R2EDZJ473APA	Carbon 47k 1/4W \pm 5%
C63,64	C1HFRJ153A	Mylar 0.015 μ F 50V \pm 5%	R39,40	R2EDZJ154APA	Carbon 150k 1/4W \pm 5%
C67,68	C1HFRJ183A	Mylar 0.018 μ F 50V \pm 5%	R41,42	R2EDZJ274APA	Carbon 270k 1/4W \pm 5%
69,70			R43,44	R2EDZJ334APA	Carbon 330k 1/4W \pm 5%
C71,72	C1HFRJ153A	Mylar 0.015 μ F 50V \pm 5%	R45,46	R2EDZJ562APA	Carbon 5.6k 1/4W \pm 5%
C73,74	C1HFRJ223A	Mylar 0.022 μ F 50V \pm 5%	R47,48	R2EDZJ183APA	Carbon 18k 1/4W \pm 5%
C75,76	C1CRY-106APA	Electrolytic 10 μ F 16V	R49,50	R2EDZJ103APA	Carbon 10k 1/4W \pm 5%
C77,78	C1HAYK474DPA	Electrolytic 0.47 μ F 50V	R51,52	R2CDZJ822APB	Carbon 8.2k 1/6W \pm 5%
C79	C1ERY-106APA	Electrolytic 10 μ F 25V	R53	R2EDZJ124APA	Carbon 120k 1/4W \pm 5%
C80	C1ERE-106A	Electrolytic 10 μ F 25V	R54	R2EDZJ822APA	Carbon 8.2k 1/4W \pm 5%
C81,82	C1HFYK222APA	Mylar 0.0022 μ F 50V \pm 10%	R55	R2EDZJ103APA	Carbon 10k 1/4W \pm 5%
C83,85	C1HRY-474APA	Electrolytic 0.47 μ F 50V	R56	R2EDPJ121A	Carbon 120 1/4W \pm 5%
86,87			R57	R2CDZJ822APB	Carbon 8.2k 1/6W \pm 5%
88,89			R58	R2EDZJ822APA	Carbon 8.2k 1/4W \pm 5%
C90	C1ARY-476APA	Electrolytic 47 μ F 10V	R59	R2CDZJ103APB	Carbon 10k 1/6W \pm 5%
C91,92	C1ECZM103XPA	Ceramic 10000 pF 25V \pm 20%	R60	R2EDZJ103APA	Carbon 10k 1/4W \pm 5%
C93,94	C1HFRK223A	Mylar 0.022 μ F 50V \pm 10%	R61,62	R2EDZJ221APA	Carbon 220 1/4W \pm 5%
SEMICONDUCTORS			R65,66	R2EDZJ151APA	Carbon 150 1/4W \pm 5%
D01,02	205 5 9040 44210	Diode, DS-442	R67,68	R2EDZJ562APA	Carbon 5.6k 1/4W \pm 5%
03,04			R69,70	R2EDZJ151APA	Carbon 150 1/4W \pm 5%
05			R71,72	R2EDZJ472APA	Carbon 4.7k 1/4W \pm 5%
IC01,02	IYY-BA301	IC, BA301	R73,74	R2EDZJ273APA	Carbon 27k 1/4W \pm 5%
IC03,04	IUU-LM1111N	IC, LM1111AN, BN, CN	R75,76	R2CDZJ222APB	Carbon 2.2k 1/6W \pm 5%
IC05	IJJ-NJM4558DX	IC, NJM4558 DX	R77,78	R2EDZJ153APA	Carbon 15k 1/4W \pm 5%
Q01,02	203 5 5000 53660	TR 2SC536 F, G	R79,80	R2EDZJ333APA	Carbon 33k 1/4W \pm 5%
03,04			R81,82	R2EDZJ122APA	Carbon 1.2k 1/4W \pm 5%
Q05,06	203 5 4921 01270	TR 2SD1012 G	R83,84	R2CDZJ682APB	Carbon 6.8k 1/6W \pm 5%
Q07,08	203 5 5000 53660	TR 2SC536 F, G	R85,86	R2CDZJ103APB	Carbon 10k 1/6W \pm 5%
09,10			87,88		
11,12			89,90		
13,14			R91	R2EDZJ103APA	Carbon 10k 1/4W \pm 5%
15,16			R92	R2EDZJ472APA	Carbon 4.7k 1/4W \pm 5%
			R93,94	R2EDZJ102APA	Carbon 1k 1/4W \pm 5%
			R95,96	R2EDZJ472APA	Carbon 4.7k 1/4W \pm 5%
			R97,98	R2EDZJ101APA	Carbon 100 1/4W \pm 5%

PARTS LIST (Continued)

TONE AMP & VU METER P.C.B. Assy **131 0 4001 10370**

Ref. No.	Parts Number	Description
	4 2222 02330	VR 10k-Bx2
	4 2222 02340	VR 50k-Ax2
VR01	4 2229 26230	VR 10k-Bx1
VR02	4 2229 26230	VR 10k-Bx1

CAPACITORS

C01,02	C1HRY-105APA	Electrolytic	1 μ F	50V
C03,04	C1ERY-475APA	Electrolytic	4.7 μ F	25V
C05	C1CRY-107APA	Electrolytic	100 μ F	16V
C06	C1HYYZ102A	Ceramic	0.001 μ F	50V +80,-20%
C07	C1HRY-474APA	Electrolytic	0.47 μ F	50V
C08	C1HCYK330APA	Ceramic	33 pF	50V \pm 10%
C09	C1HCDK820SL	Ceramic	82 pF	50V \pm 10%
C10	C1ERE-475A	Electrolytic	4.7 μ F	25V
C11	C1HCYD100APA	Ceramic	10 pF	50V \pm 0.5%
C12	C1ARY-476APA	Electrolytic	47 μ F	10V
C13	C1CRY-106APA	Electrolytic	10 μ F	16V
C14	C1CRY-107APA	Electrolytic	100 μ F	16V
C15,16	C1HRY-105APA	Electrolytic	1 μ F	50V
C17,18	C1ERE-475A	Electrolytic	4.7 μ F	25V
C19,20	C1HFYK122APA	Mylar	0.0012 μ F	50V \pm 10%
C21,22	C1HFYK103APA	Mylar	0.01 μ F	50V \pm 10%
23,24				
C25,26	C1HFRK683A	Mylar	0.068 μ F	50V \pm 10%
C27,28	C1CRY-107APA	Electrolytic	100 μ F	16V
C29,30	C1HAEM105D	Electrolytic	1 μ F	50V \pm 20%
C31,32	C1HRY-474APA	Electrolytic	0.47 μ F	50V
C33	C1ARE-107A	Electrolytic	100 μ F	10V
C34	C1ARY-107APA	Electrolytic	100 μ F	10V
C35,36	C1CRY-106APA	Electrolytic	10 μ F	16V
C37,38	C1ARY-226APA	Electrolytic	22 μ F	10V
C39	C1ERE-475A	Electrolytic	4.7 μ F	25V
C40	C1ERY-475APA	Electrolytic	4.7 μ F	25V
C41,42	C1CRY-106APA	Electrolytic	10 μ F	16V
C43,44	C1HYDZ102A	Ceramic	0.001 μ F	50V +80,-20%

SEMICONDUCTORS

D01,02	DYY-SLR-54UR	L.E.D., SLR-54UR (Red)
03,04		
05,06		
07,08		
09,10		
11,12		
D13	202 5 3210 05620	Zener Diode, GZA5.6U
IC01	IYY-BA301	IC, BA301
IC02,03	IYY-BA6137	IC, BA6137
Q01,02	203 5 5251 57160	TR 2SC1571F
Q03,04	203 5 5251 57170	TR 2SC1571G
Q05,06	203 5 5000 53670	TR 2SC536G
Q07,08	203 5 5000 53660	TR 2SC536F

Ref. No.	Parts Number	Description
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RESISTORS

R01,02	R2CDZJ102APB	Carbon	1k	1/6W	\pm 5%
R03,04	R2CDZJ224APB	Carbon	220k	1/6W	\pm 5%
R05,06	R2CDZJ334APB	Carbon	330k	1/6W	\pm 5%
R07,08	R2CDZJ472APB	Carbon	4.7k	1/6W	\pm 5%
R09,10	R2CDZJ102APB	Carbon	1k	1/6W	\pm 5%
R11	R2EDZJ471APA	Carbon	470	1/4W	\pm 5%
R12	R2CDZJ392APB	Carbon	3.9k	1/6W	\pm 5%
R13	R2CDZJ102APB	Carbon	1k	1/6W	\pm 5%
R14	R2CDZJ184APB	Carbon	180k	1/6W	\pm 5%
R15	R2EDZJ154APA	Carbon	150k	1/4W	\pm 5%
R16	R2CDZJ223APB	Carbon	22k	1/6W	\pm 5%
R17	R2EDZJ472APA	Carbon	4.7k	1/4W	\pm 5%
R18	R2CDZJ104APB	Carbon	100k	1/6W	\pm 5%
R19,20	R2EDZJ471APA	Carbon	470	1/4W	\pm 5%
R21,22	R2CDZJ102APB	Carbon	1k	1/6W	\pm 5%
R23,24	R2CDZJ684APB	Carbon	680k	1/6W	\pm 5%
R25,26	R2CDZJ124APB	Carbon	120k	1/6W	\pm 5%
R27,28	R2CDZJ472APB	Carbon	4.7k	1/6W	\pm 5%
R29,30	R2CDZJ681APB	Carbon	680	1/6W	\pm 5%
R31,32	R2CDZJ153APB	Carbon	15k	1/6W	\pm 5%
R33,34	R2CDZJ222APB	Carbon	2.2k	1/6W	\pm 5%
R35,36	R2CEZJ123APB	Carbon	12k	1/6W	\pm 5%
R37,38	R2CDZJ102APB	Carbon	1k	1/6W	\pm 5%
R39,40	R2CDZJ684APB	Carbon	680k	1/6W	\pm 5%
R41,42	R2CDZJ124APB	Carbon	120k	1/6W	\pm 5%
R43,44	R2CDZJ472APB	Carbon	4.7k	1/6W	\pm 5%
R45,46	R2CDZJ152APB	Carbon	1.5k	1/6W	\pm 5%
R47,48	R2EDZJ102APA	Carbon	1k	1/4W	\pm 5%
R49,50	R2CDZJ103APB	Carbon	10k	1/6W	\pm 5%
51,52					
R53,54	R2CDZJ473APB	Carbon	47k	1/6W	\pm 5%
R55,56	R2HXB7470A	Oxide Metal Film	47	1/2W	\pm 5%
R57	R2EDZJ471APA	Carbon	470	1/4W	\pm 5%

PARTS LIST (Continued)

MIC JACK P.C.B. Assy
131 0 4001 10380

Ref. No.	Parts Number	Description
	4 2352 01180	Jack 7P

HEADPHONE P.C.B. Assy
131 0 4001 10390

Ref. No.	Parts Number	Description
	4 2352 01170	Jack 7P

ASF IND. P.C.B. Assy
131 0 4001 10400

Ref. No.	Parts Number	Description
		SEMICONDUCTORS

D01,02	DWM-LN224RP	L.E.D., LN224RP (Red)
03		

DECK MODE IND. P.C.B. Assy
131 0 4001 10410

Ref. No.	Parts Number	Description
	131 0 4006 22269	Cord Assy

ASF CONTROL P.C.B. Assy
131 0 4001 09050

Ref. No.	Parts Number	Description
	4 2362 00520	Plug 6P
	4 2362 00650	Plug 4P
L01	4 2539 20440	RF Filter (100 mH)

CAPACITORS

C01	C1HFRK682A	Mylar 0.0068 μ F 50V \pm 10%
C02	C1CRE-106A	Electrolytic 10 μ F 16V
C03	C1HFRK682A	Mylar 0.0068 μ F 50V \pm 10%
C04	C1CRE-106A	Electrolytic 10 μ F 16V
C05	C1HFRK682A	Mylar 0.0068 μ F 50V \pm 10%
C06,07	C1HREK105BL	Electrolytic 1 μ F 50V \pm 10%
08		
C09	C1HFRK682A	Mylar 0.0068 μ F 50V \pm 10%
C10,11	C1CRE-106A	Electrolytic 10 μ F 16V
C12	C1CRE-107A	Electrolytic 100 μ F 16V
C13	C1HYDZ473A	Ceramic 0.047 μ F 50V +80,-20%

Ref. No.	Parts Number	Description
		SEMICONDUCTORS

D01	202 5 2470 13540	Diode, DS135D
D02,03	205 5 9040 44210	Diode, DS-442
D04	202 5 3210 05610	Zener Diode, GZA5.6L
D05,06	205 5 9040 44210	Diode, DS-442

07,08		
09,10		
11		

IC01	206 5 9417 51010	IC, LC7510
001	203 5 6850 40050	TR 2SD400 E, F
002	203 5 5000 53670	TR 2SC536 G
003,04	203 5 5000 53660	TR 2SC536 F, G
05		

RESISTORS

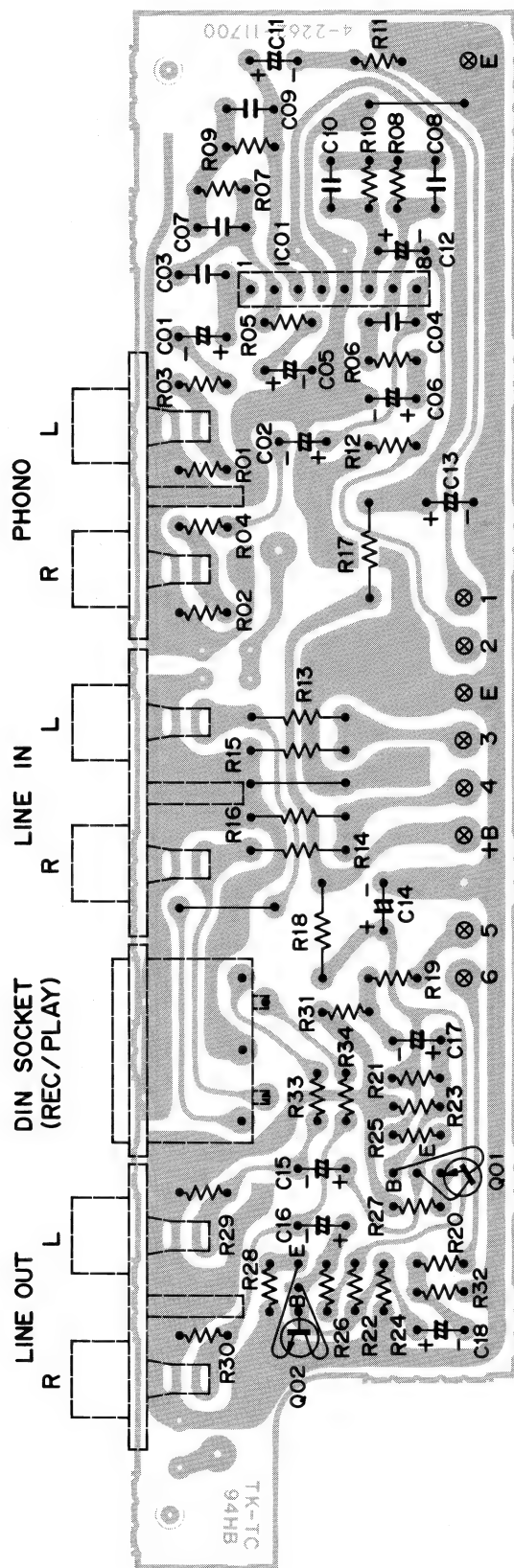
R01	R2CDZJ103APB	Carbon 10k 1/6W \pm 5%
R02	R2CDZJ104APB	Carbon 100k 1/6W \pm 5%
R03	R2CDZJ103APB	Carbon 10k 1/6W \pm 5%
R04	R2CDZJ104APB	Carbon 100k 1/6W \pm 5%
R05	R2CDZJ274APB	Carbon 270k 1/6W \pm 5%
R06	R2CDZJ222APB	Carbon 2.2k 1/6W \pm 5%
R07	R2CDZJ221APB	Carbon 220 1/6W \pm 5%
R08	R2CDZJ223APB	Carbon 22k 1/6W \pm 5%
R09	R2CDZJ472APB	Carbon 4.7k 1/6W \pm 5%
R10	R2EDUJ151A	Carbon 150 1/4W \pm 5%
R11	R2CDZJ563APB	Carbon 56k 1/6W \pm 5%
R12	R2CDZJ154APB	Carbon 150k 1/6W \pm 5%
R13	R2CDZJ222APB	Carbon 2.2k 1/6W \pm 5%
R14	R2CDZJ562APB	Carbon 5.6k 1/6W \pm 5%
R15	R2CDZJ563APB	Carbon 56k 1/6W \pm 5%
R16,17	R2CDZJ102APB	Carbon 1k 1/6W \pm 5%
R18	R2CDZJ124APB	Carbon 120k 1/6W \pm 5%
R19	R2CDZJ184APB	Carbon 180k 1/6W \pm 5%
R20	R2CDZJ103APB	Carbon 10k 1/6W \pm 5%
R21	R2CDZJ562APB	Carbon 5.6k 1/6W \pm 5%
R22	R2CDZJ103APB	Carbon 10k 1/6W \pm 5%
R23	R2CDZJ562APB	Carbon 5.6k 1/6W \pm 5%
R24	R2EDZJ102APB	Carbon 1k 1/4W \pm 5%
R25	R2CDZJ103APB	Carbon 10k 1/6W \pm 5%
R26,27	R2CDZJ561APB	Carbon 560 1/6W \pm 5%
R28	R2CDZJ102APB	Carbon 1k 1/6W \pm 5%
R29	R2EDUJ123A	Carbon 12k 1/4W \pm 5%
R30	R2CDZJ822APB	Carbon 8.2k 1/6W \pm 5%

PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF AN UNIT. COMPONENTS INDICATED BY A MARK Δ IN THIS PARTS LIST AND THE SCHEMATIC DIAGRAM SHOW COMPONENTS WHOSE VALUE HAS SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS SPECIFIED ON THE FOLLOWING PARTS LIST BE USED FOR COMPONENT REPLACEMENT POINTED OUT BY THE MARK.

PHONO EQ & RCA TERMINAL P.C.BOARD

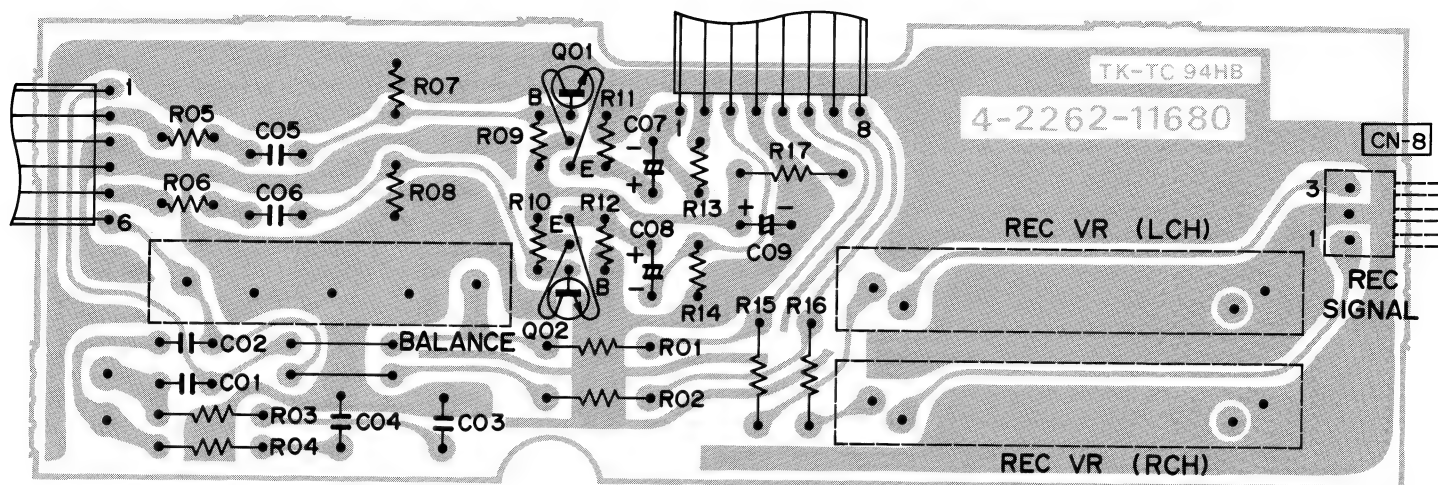
(BOTTOM VIEW)



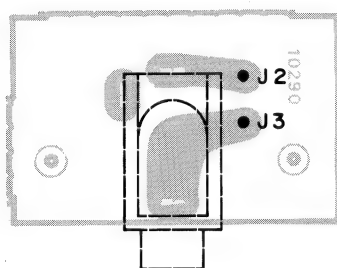
TRANSISTOR DC VOLTAGES				
SYMBOL No.	DEVICE	B	C	E
Q01,02	2SC1571	1.9V	6.4V	1.3V

IC PIN NUMBERS VOLTAGES							
SYMBOL No.	DEVICE	1	2	3	4	5	6
IC01	LA3161	1.3V	0.8V	3.6V	8.3V	0V	3.6V
							0.8V
							1.3V

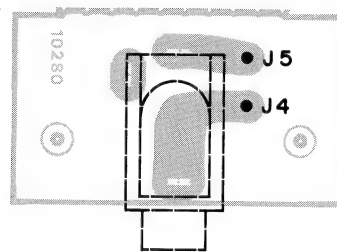
BALANCE/REC P.C.BOARD (BOTTOM VIEW)



SPEAKER OUT P.C.BOARD (BOTTOM VIEW)

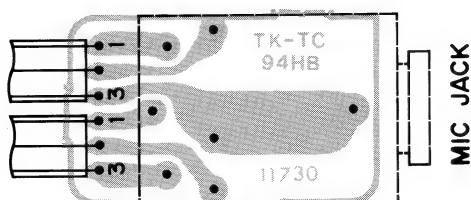


SP TERMINAL
LEFT

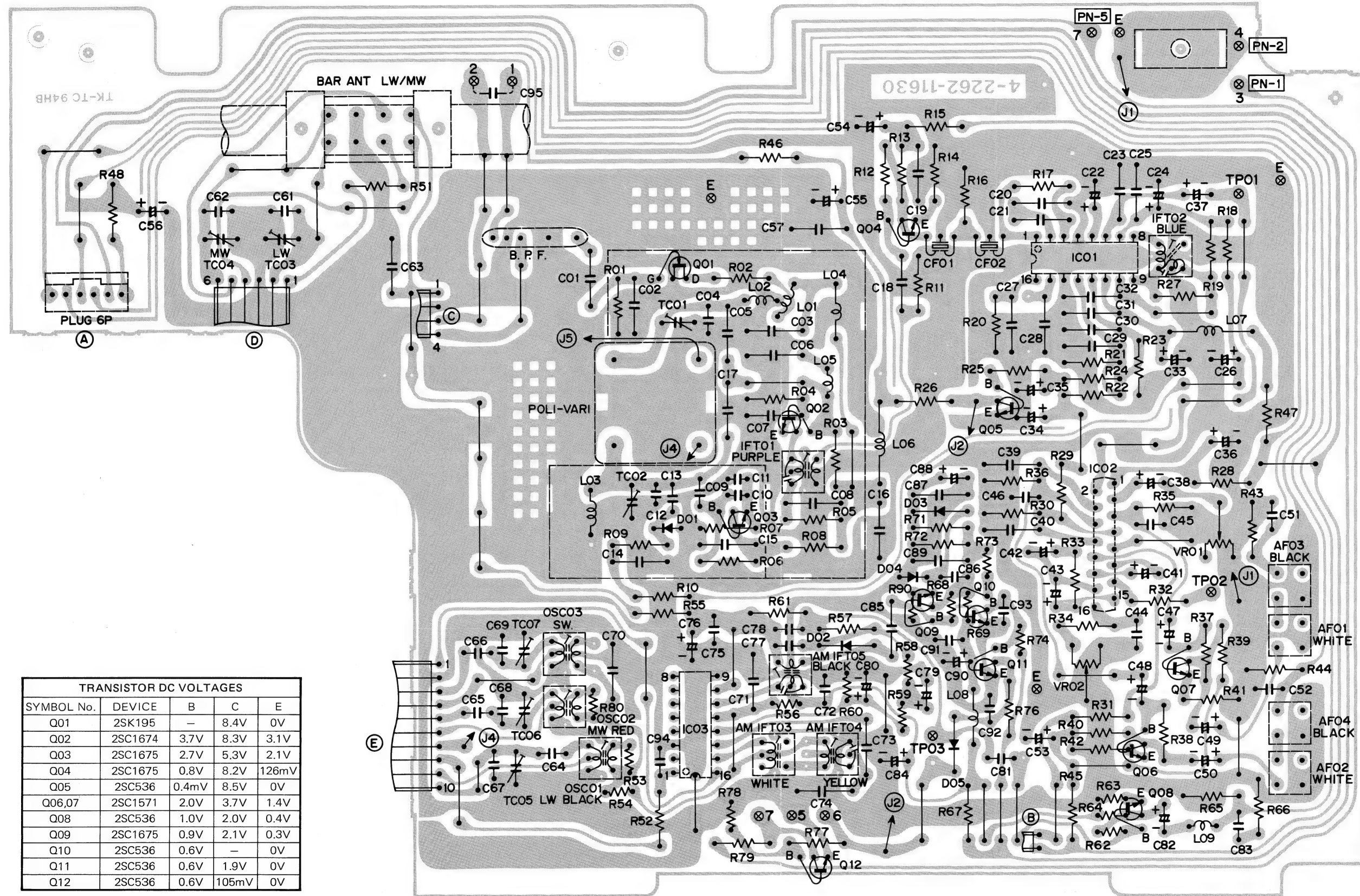


SP TERMINAL
RIGHT

MIC JACK P.C.BOARD (BOTTOM VIEW)



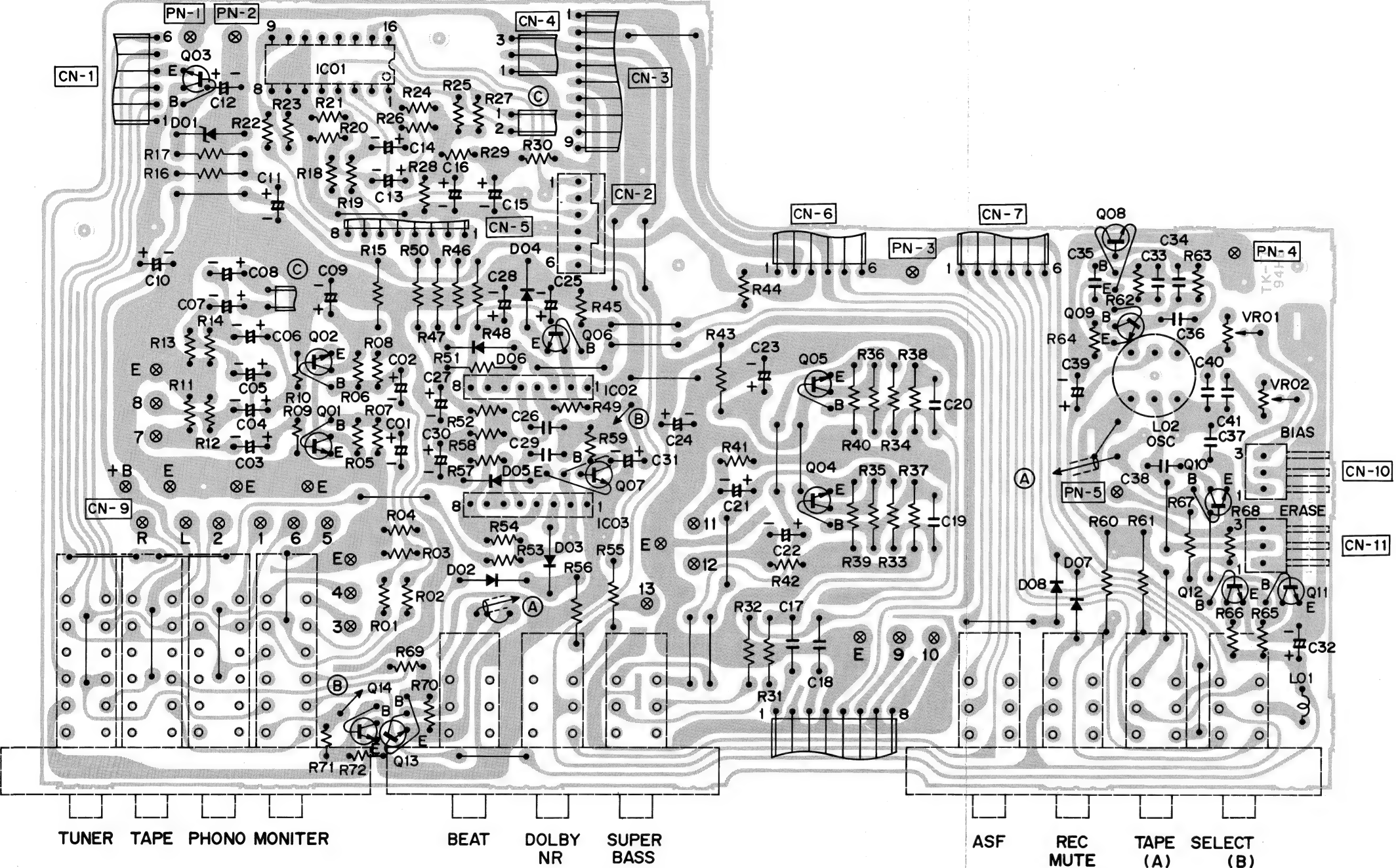
RF, IF, MPX P.C.BOARD (BOTTOM VIEW)



TRANSISTOR DC VOLTAGES				
SYMBOL No.	DEVICE	B	C	E
Q01	2SK195	—	8.4V	0V
Q02	2SC1674	3.7V	8.3V	3.1V
Q03	2SC1675	2.7V	5.3V	2.1V
Q04	2SC1675	0.8V	8.2V	126mV
Q05	2SC536	0.4mV	8.5V	0V
Q06,07	2SC1571	2.0V	3.7V	1.4V
Q08	2SC536	1.0V	2.0V	0.4V
Q09	2SC1675	0.9V	2.1V	0.3V
Q10	2SC536	0.6V	—	0V
Q11	2SC536	0.6V	1.9V	0V
Q12	2SC536	0.6V	105mV	0V

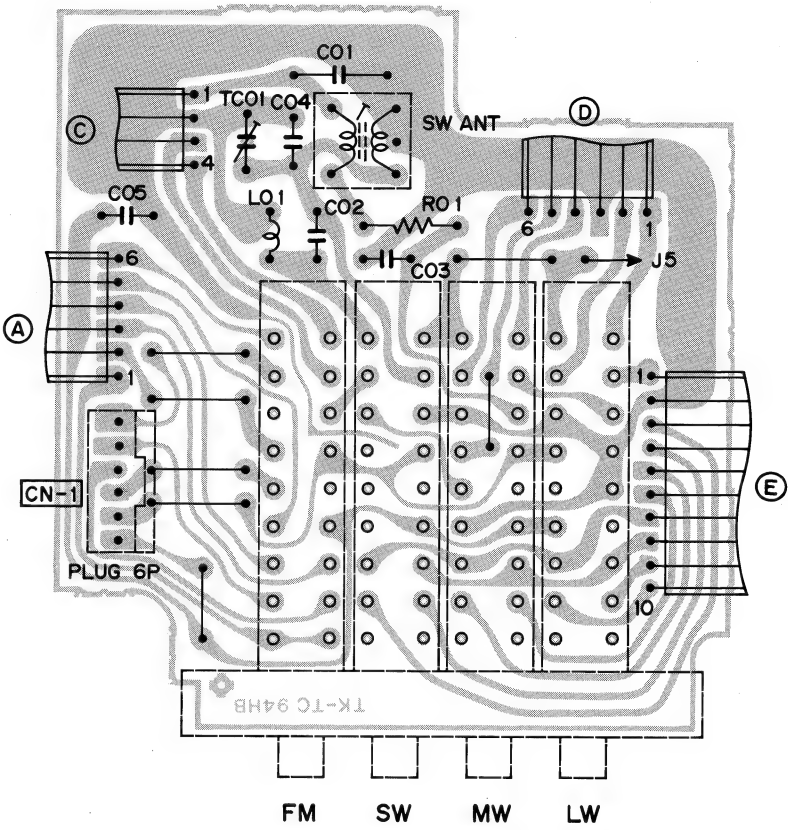
IC PIN NUMBERS VOLTAGES																	
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC01	μPC1167	2.3V	2.3V	2.3V	0V	149mV	6.8V	6.6V	6.0V	6.0V	6.0V	8.9V	0.4mV	3.5V	0V	1.6V	6.3V
IC02	LA3370	8.5V	2.8V	3.2V	2.7V	4.7V	4.7V	2.1V	3.4V	0V	0.6V	2.5V	2.4V	1.6V	2.4V	2.4V	2.5V
IC03	μPC1018C	2.4V	—	—	—	—	—	—	—	0V	0.7V	2.8V	3.0V	0.6V	0.7V	2.4V	0.7V

FUNCTION & CONTROL P.C.BOARD (BOTTOM VIEW)

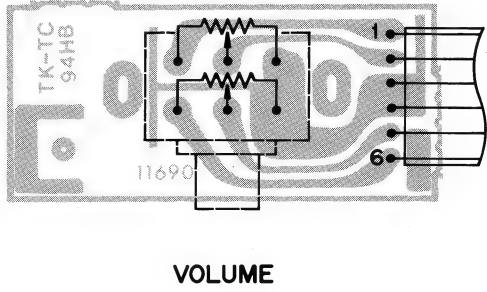


IC PIN NUMBERS VOLTAGES																	
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC01	MSM4053	3.9V	3.9V	3.9V	3.9V	3.9V	0V	0V	0V	5.9V	5.9V	0V	—	—	—	3.9V	8.1V
IC02,03	BA223	0V	9.3V	2mV	9.3V	6.1V	3.7mV	3.7mV	9.3V	—	—	—	—	—	—	—	—

BAND SW. P.C.BOARD (BOTTOM VIEW)

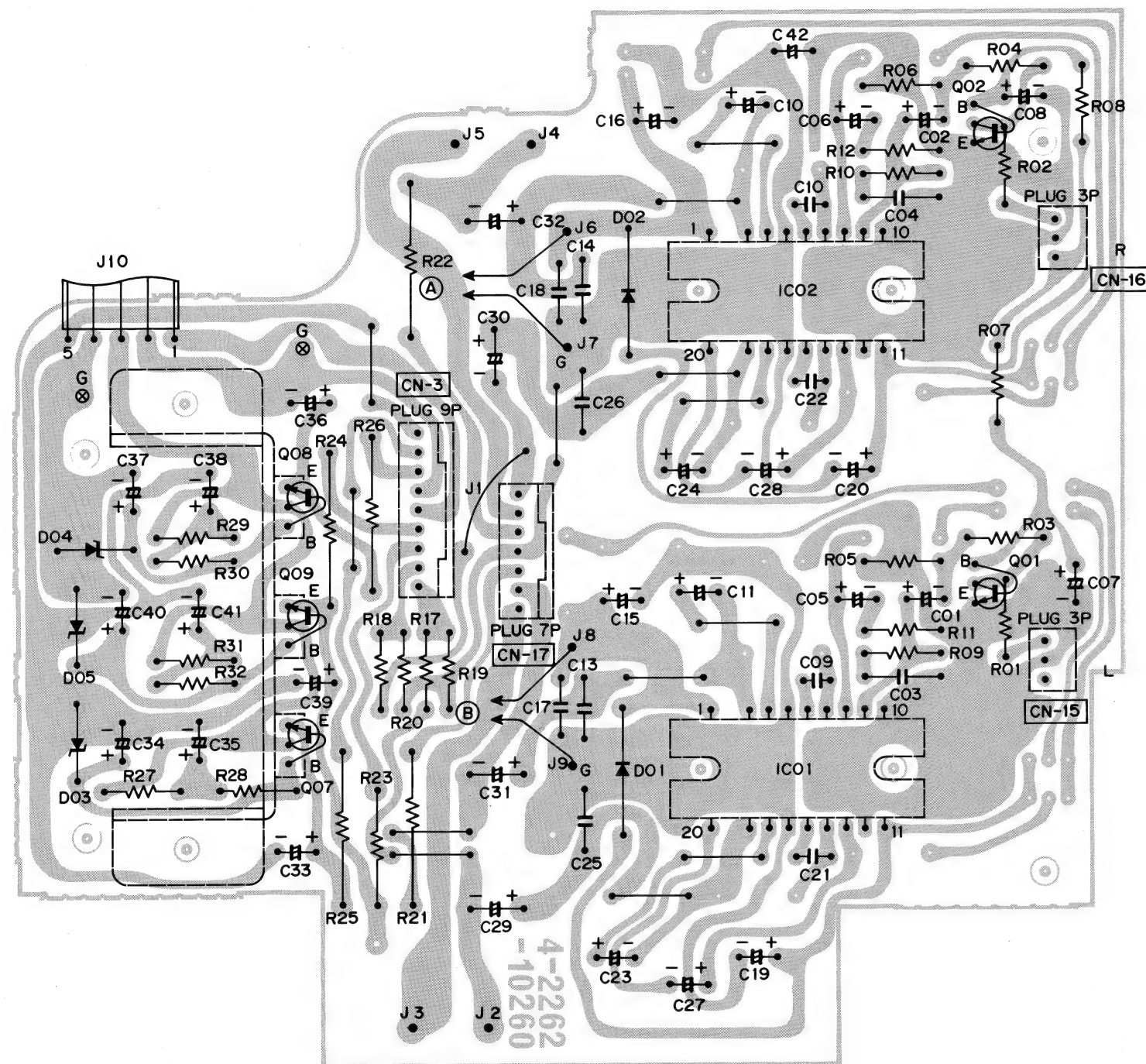


VOLUME P.C.BOARD (BOTTOM VIEW)

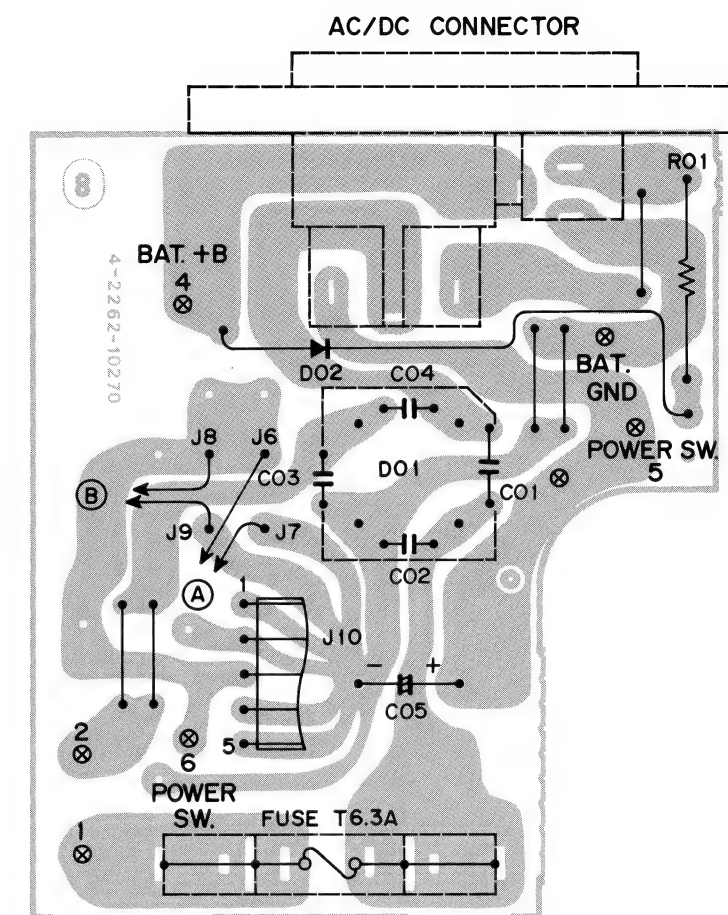


VOLUME

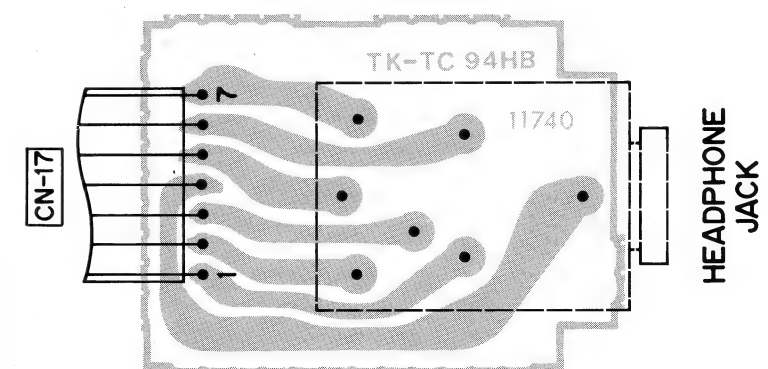
MAIN AMPLIFIER P.C.BOARD (BOTTOM VIEW)



POWER SUPPLY P.C.BOARD (BOTTOM VIEW)

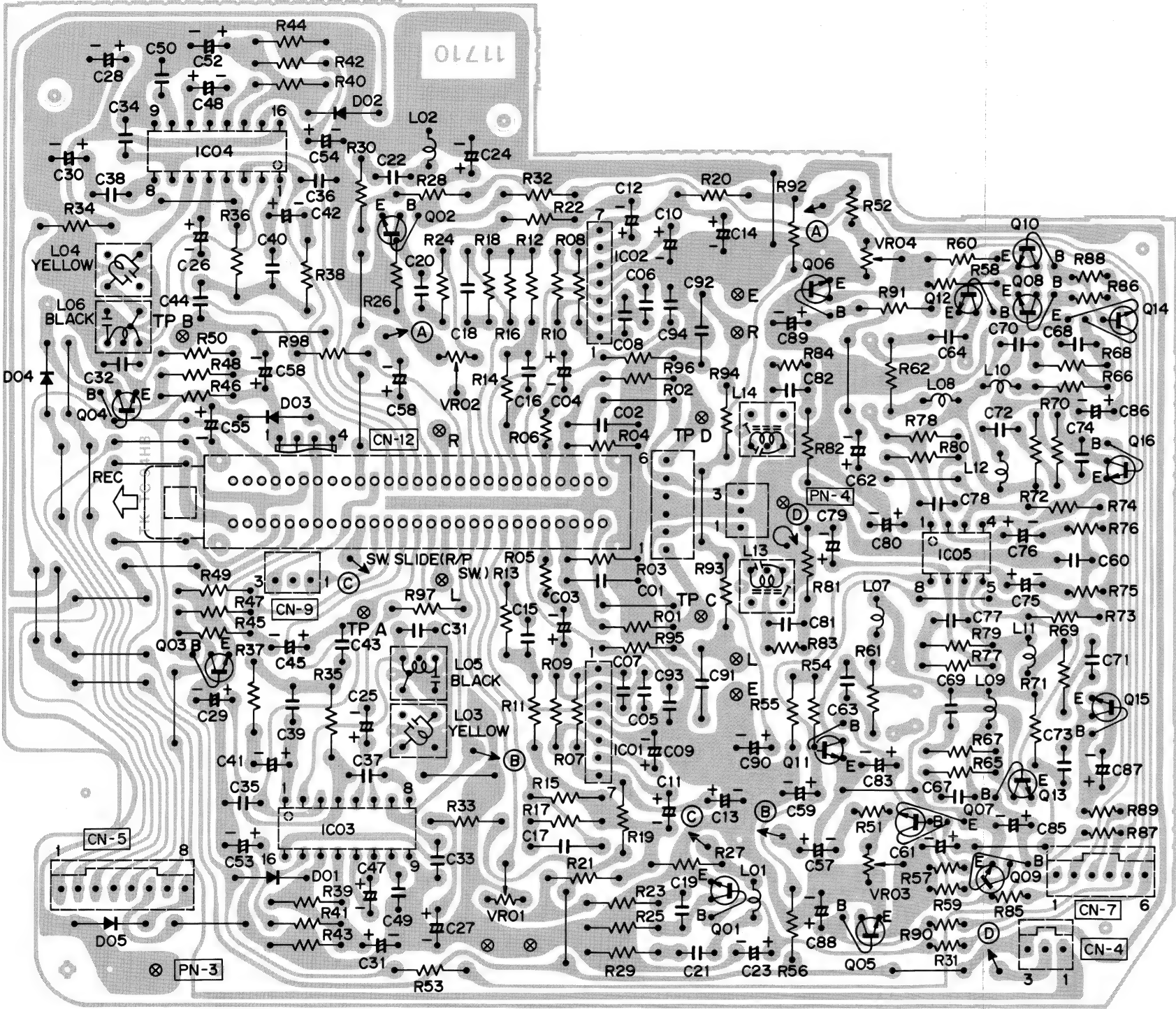


HEADPHONE P.C.BOARD (BOTTOM VIEW)



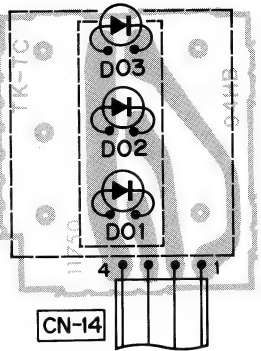
IC PIN NUMBERS VOLTAGES																					
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC01,02	LA4126T	15.6V	—	7.9V	15.0V	0V	—	—	0.4V	15mV	0V	15.3V	0V	0.4V	—	—	0V	15.0V	7.9V	—	84mV

CASSETTE REC/PLAY P.C.BOARD (BOTTOM VIEW)

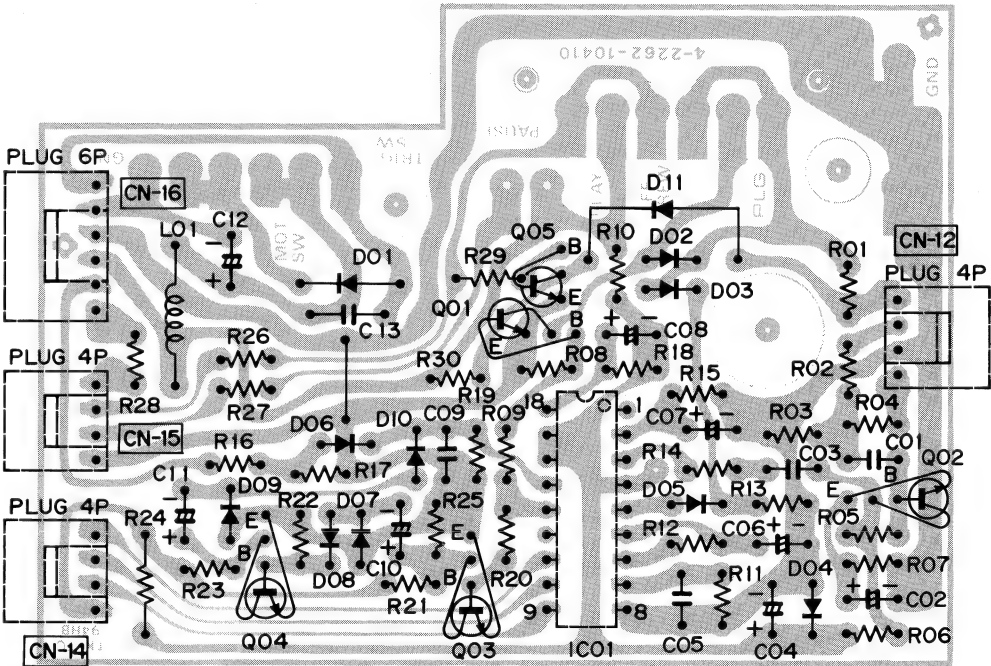


IC PIN NUMBERS VOLTAGES																
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
IC01,02	BA301	1.8V	0.5V	17mV	0V	0.5V	5.7V	9.9V	—	—	—	—	—	—	—	—
IC03,04	LM1111	4.5V	4.6V	4.6V	4.6V	4.2V	4.6V	4.5V	4.6V	0V	4.6V	4.7V	1.5V	1.5V	1.2V	1.2V
IC05	NJM4558	—	—	—	0V	5.4V	5.4V	5.4V	10.0V	—	—	—	—	—	—	—

ASF IND. P.C.BOARD (BOTTOM VIEW)



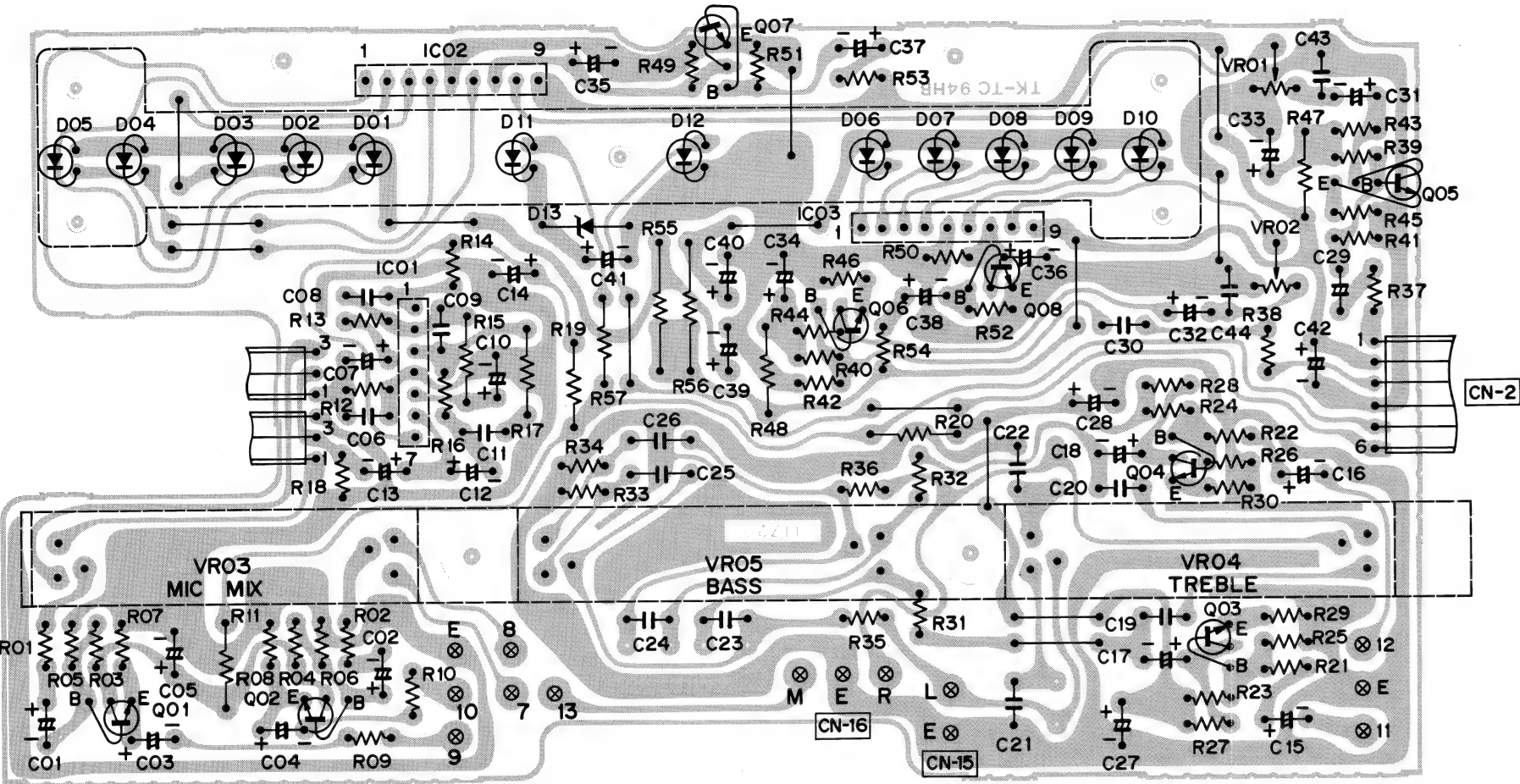
ASF CONTROL P.C.BOARD (BOTTOM VIEW)



TRANSISTOR DC VOLTAGES											
SYMBOL No.	DEVICE	B	C	E	SYMBOL No.	DEVICE	B	C	E	SYMBOL No.	DEVICE
Q01	2SD400	0.6V	1.8mV	0V	Q03	2SC536	0.6V	7mV	0V	Q04	2SC536
Q02	2SC536	0.9V	2.2V	0.3V			0.6mV	1.9V	0V		

IC PIN NUMBERS VOLTAGES																			
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
IC01	LC7510	—	2.0V	1.8V	5.6V	0.6V	3mV	1.8V	2mV	0V	5.6V	5.6V	60mV	—	5.5V	2mV	5.6V	5.6V	4mV

TONE AMP & VU METER P.C.BOARD (BOTTOM VIEW)



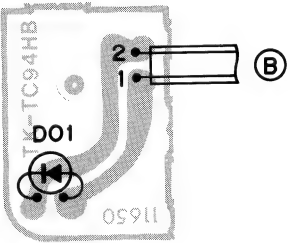
TRANSISTOR DC VOLTAGES				
SYMBOL No.	DEVICE	B	C	E
Q01,02	2SC1571	5.1V	9.6V	4.5V
Q03,04	2SC1571	1.1V	5.7V	0.5V

IC PIN NUMBERS VOLTAGES										
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9
IC01	BA301	1.7V	0.5V	10mV	0V	0.5V	6.0V	9.9V	—	—
IC02,03	BA6137	6.1V	6.2V	9.3V	8.9V	0V	8.3V	0.5V	−1.5mV	−2mV

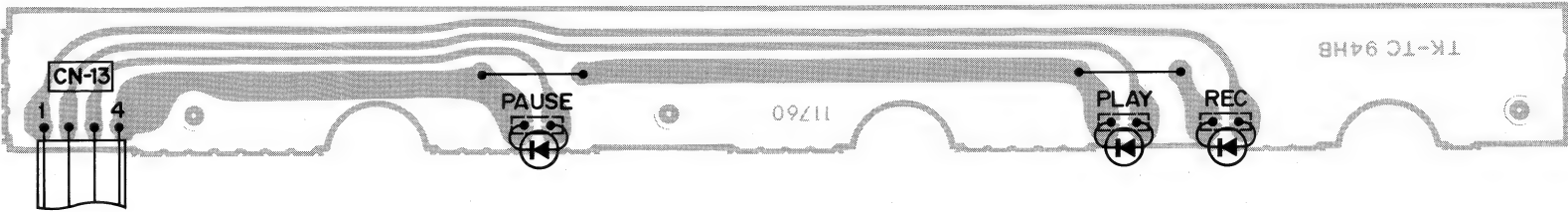
POINTER/TUNE P.C.BOARD (BOTTOM VIEW)



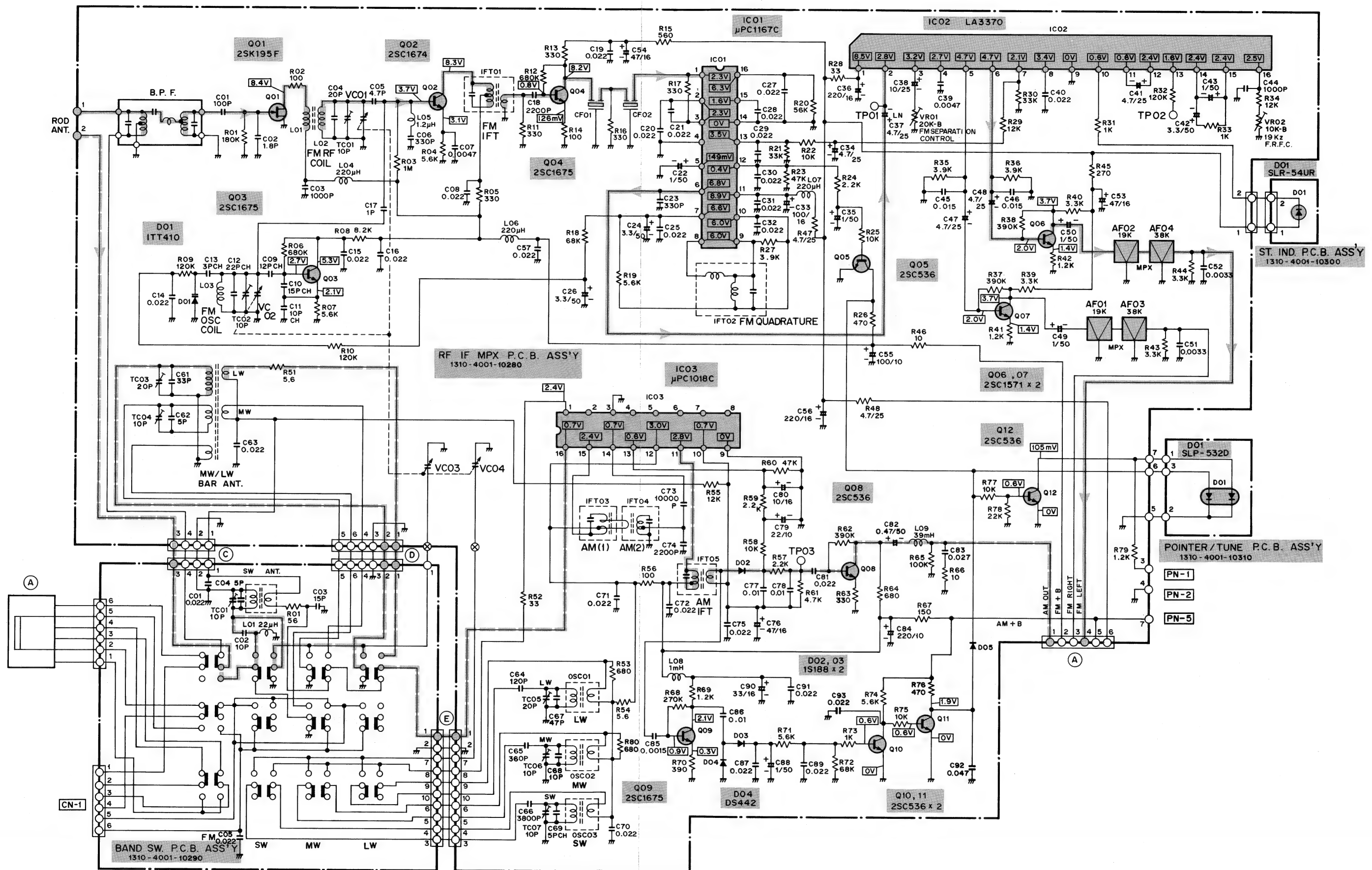
STEREO IND. P.C.BOARD (BOTTOM VIEW)



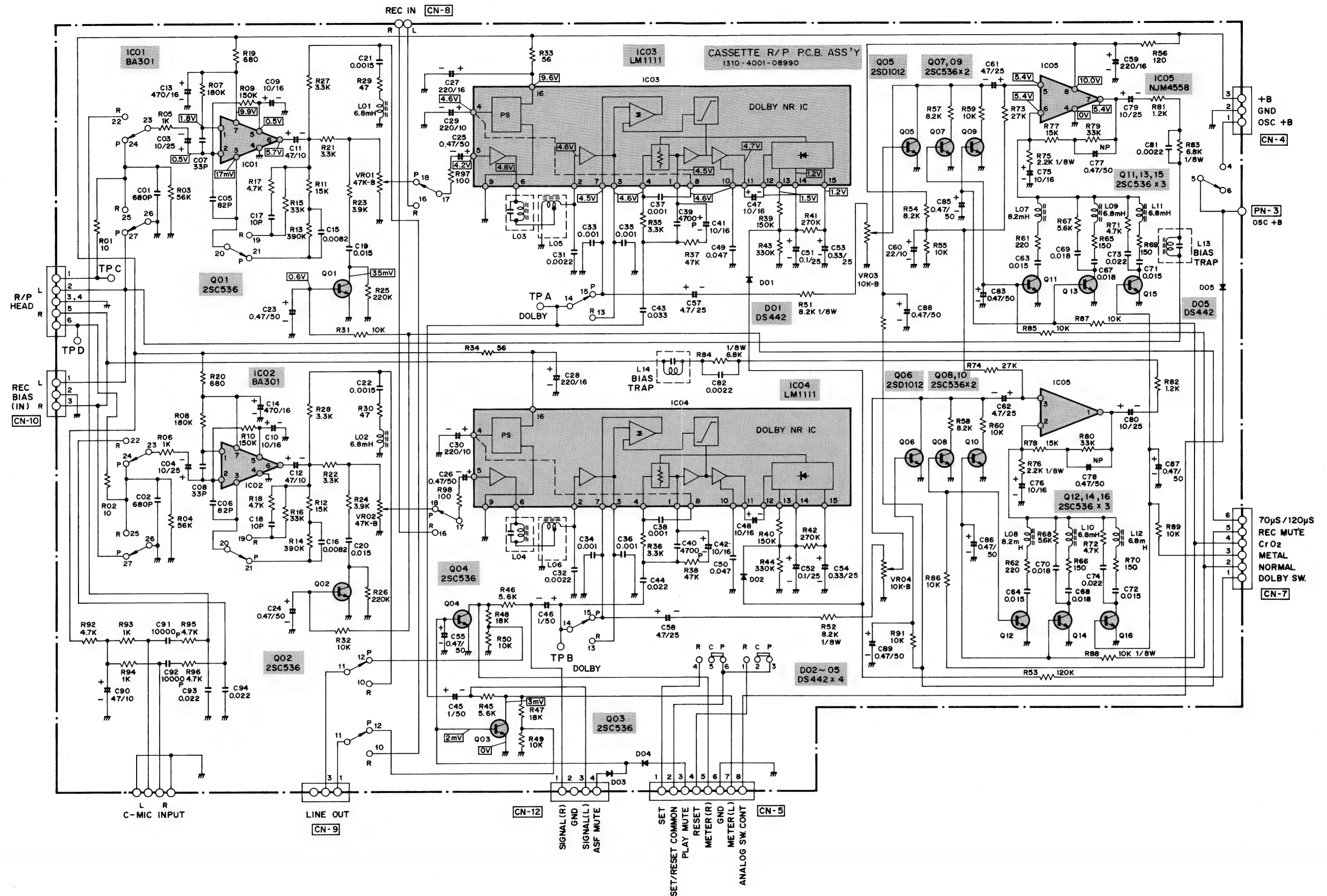
DECK MODE IND. P.C.BOARD (BOTTOM VIEW)



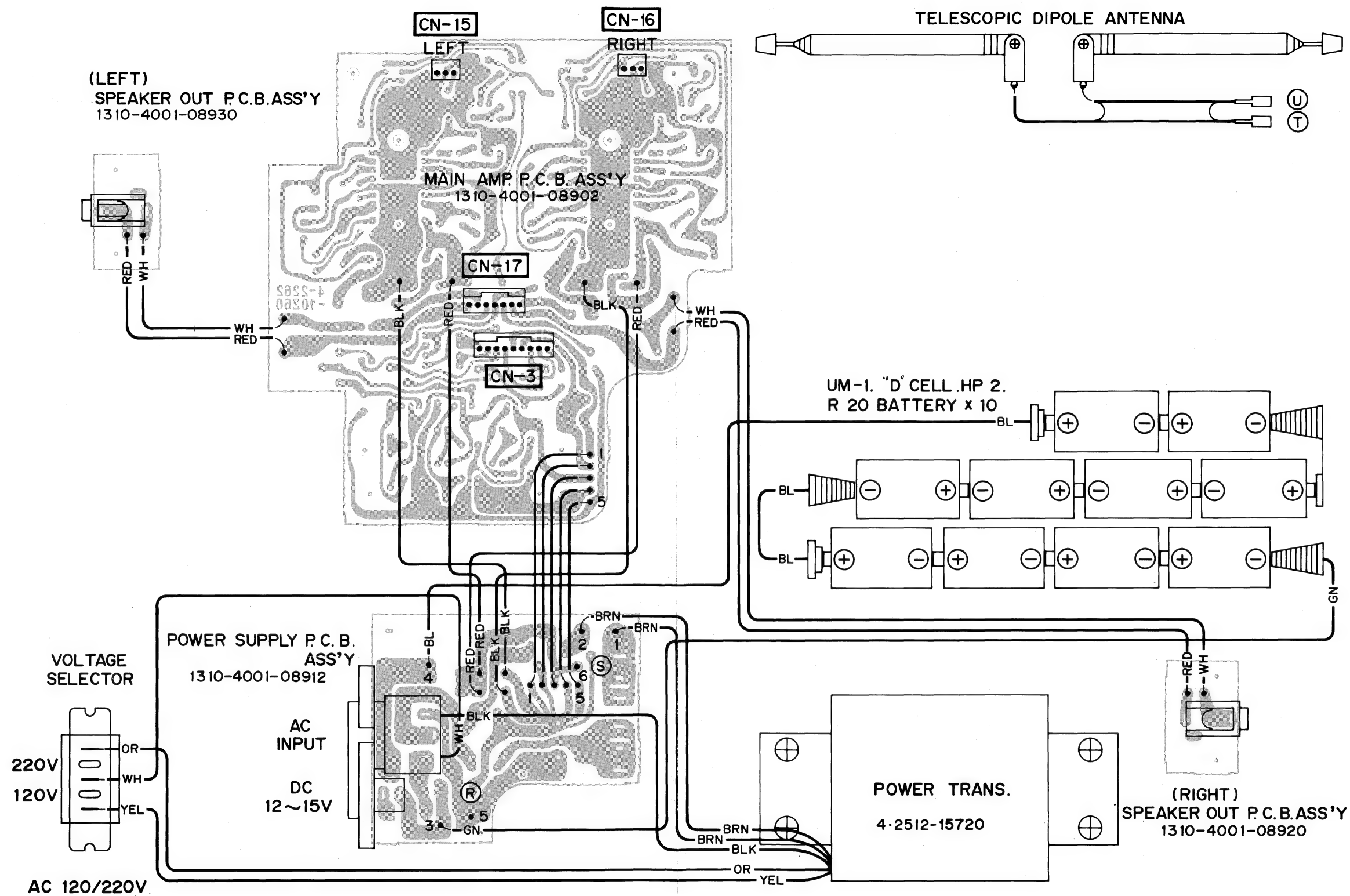
SCHEMATIC DIAGRAM (1)



SCHEMATIC DIAGRAM (2) (Continued)




POINT TO POINT WIRING DIAGRAM



METER P.C.B. ASS'Y



PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF AN UNIT. COMPONENTS INDICATED BY A MARK  IN THE SCHEMATIC DIAGRAM SHOW COMPONENTS WHOSE VALUE HAS SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS SPECIFIED ON THE ATTACHED PARTS LIST BE USED FOR COMPONENT REPLACEMENT POINTED OUT BY THE MARK.

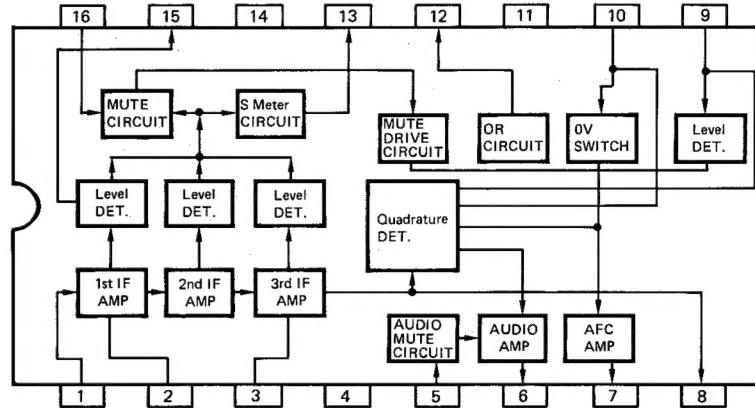
NOTES:

1. All resistors values are indicated in "ohm" ($K=10^3, M=10^6$).
2. All capacitors values are indicated in " μF " ($P=10^{-12}$).
3. All voltages indicated on the schematics are measured under the following conditions.
 - a. All voltages $\pm 10\%$ with respect to chassis ground
 - b. No signals at input terminals
 - c. AC input at 220 volts 50 Hz
4. This is a basic schematic diagram.

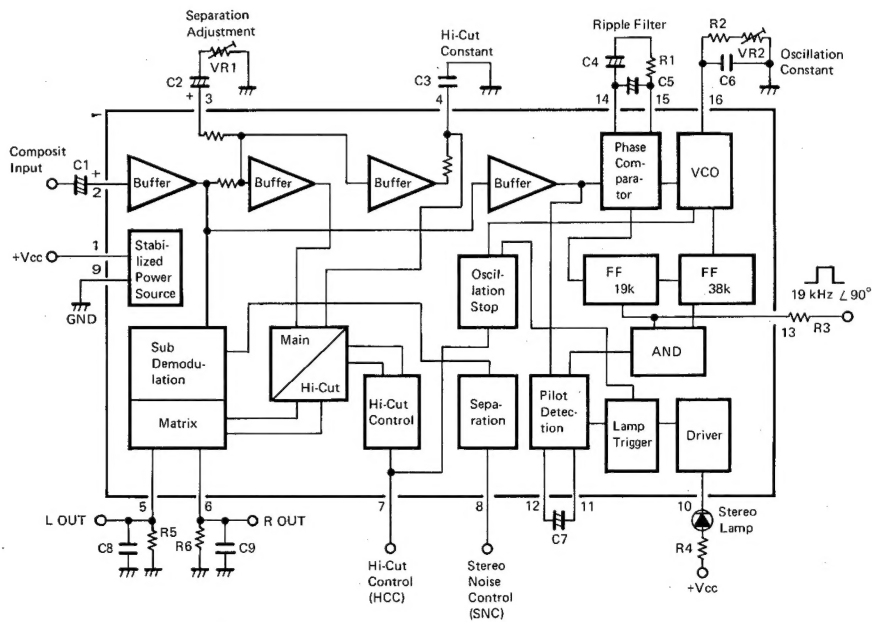
Because Fisher products are subject to continuous improvement, Fisher Corporation reserves the right to make any change in specifications without notice.

IC EQUIVALENT CIRCUIT & BLOCK DIAGRAM

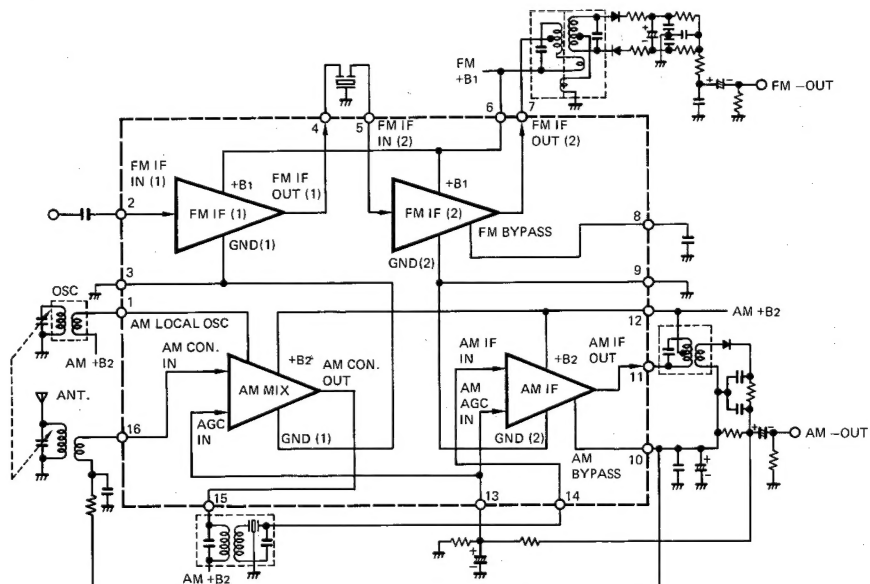
FM IF IC μ PC1167C2 BLOCK DIAGRAM



FM MPX IC LA3370 BLOCK DIAGRAM

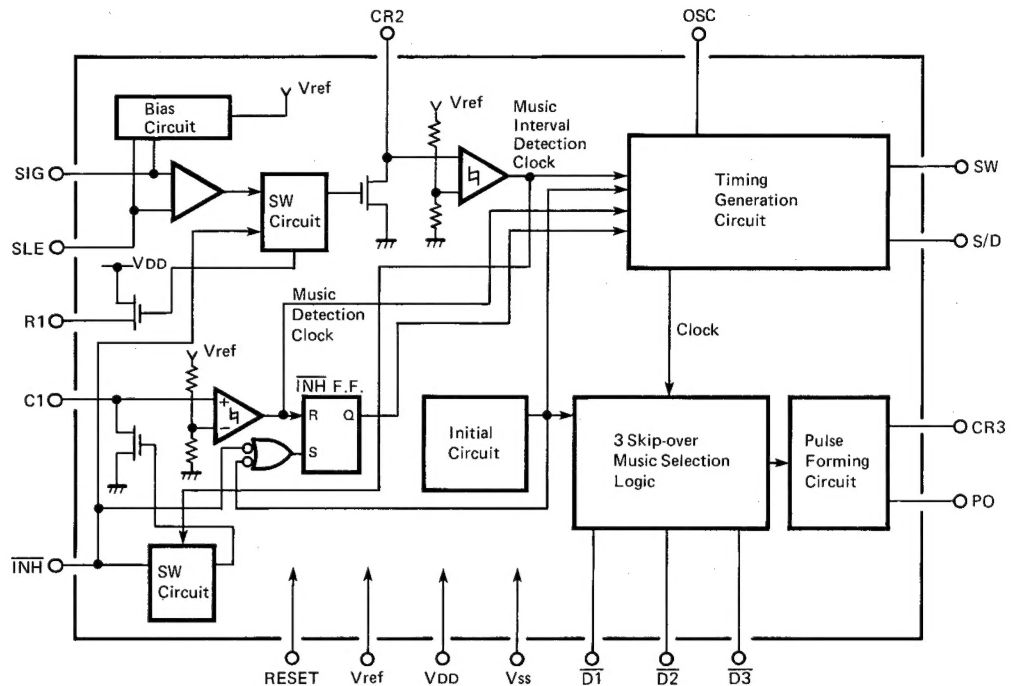


AM RF/IF IC μ PC1018C BLOCK DIAGRAM

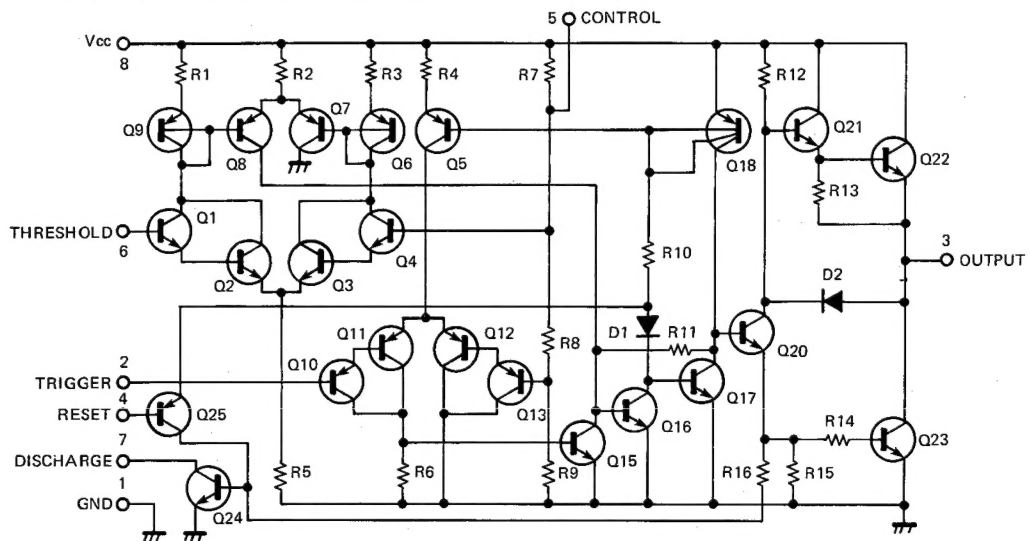


IC EQUIVALENT CIRCUIT & BLOCK DIAGRAM (Continued)

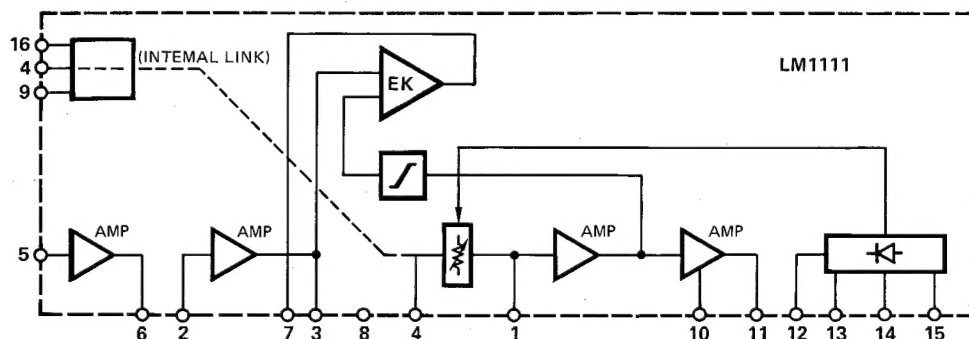
ASF CONTROL IC LC7510 BLOCK DIAGRAM



MUTING IC BA223 EQUIVALENT CIRCUIT

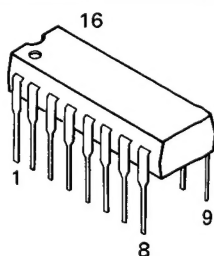


DOLBY NR IC LM1111 BLOCK DIAGRAM

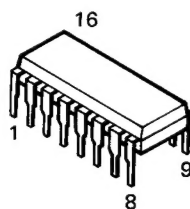


SEMICONDUCTOR LEAD IDENTIFICATION

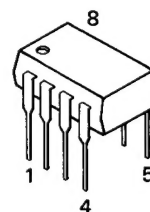
INTEGRATED CIRCUITS



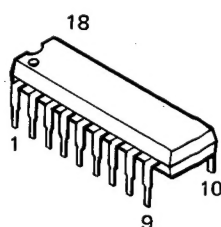
- μ PC1167C2
- μ PC1018C
- MSM4053



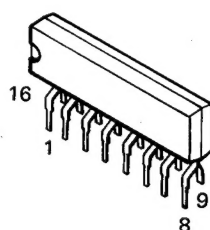
- LM1111AN



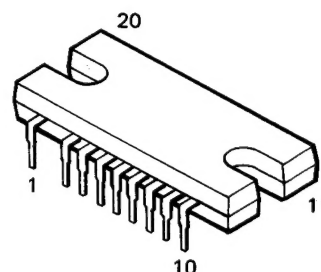
- NJM4558D



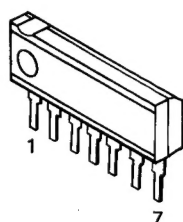
- LC7510



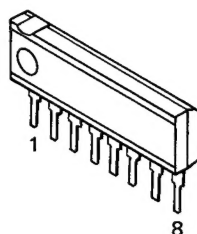
- LA3370



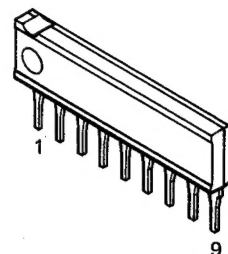
- LA4126T



- BA301



- BA223



- BA6137

BI-POLAR TRANSISTORS



DSG

- 2SK195



ECB

- 2SA608
- 2SC536
- 2SC1571
- 2SC1674
- 2SC1675
- 2SD545



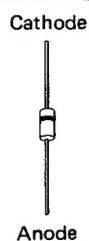
- 2SD612



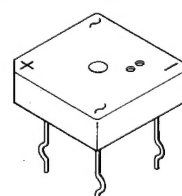
ECB

- 2SD400

DIODES



- 1S188
- DS-442
- GZA11U
- GZA9.1U
- GZA5.6U
- DS135D



- DBA40